

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

\* \* \* \* \*

B.P.J., by her next friend and	*
mother, HEATHER JACKSON,	*
Plaintiffs	* Case No.
vs.	* 2:21-CV-00316
WEST VIRGINIA STATE BOARD OF	*
EDUCATION, HARRISON COUNTY BOARD OF*	
EDUCATION, WEST VIRGINIA SECONDARY *	
SCHOOL ACTIVITIES COMMISSION, W.	*
CLAYTON BURCH in his official	*
capacity as State Superintendent,	*
and DORA STUTLER in her official	*
capacity as Harrison County	*
Superintendent, PATRICK MORRISEY in*	

VIDEOTAPED DEPOSITION OF

JOSHUA SAFER, M.D.

March 24, 2022

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his official capacity as Attorney \*  
 General, and THE STATE OF WEST \*  
 VIRGINIA, \*  
 Defendants \*

\* \* \* \* \*  
 VIDEOTAPED DEPOSITION OF  
 JOSHUA SAFER, M.D.  
 March 24, 2022

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VIDEOTAPED DEPOSITION  
 OF

JOSHUA SAFER, M.D., taken on behalf of the Intervenor  
 herein, pursuant to the Rules of Civil Procedure, taken  
 before me, the undersigned, Nicole Montagano, a Court  
 Reporter and Notary Public in and for the Commonwealth  
 of Pennsylvania, taken via videoconference, on  
 Wednesday, March 24, 2022 at 9:30 a.m.

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## EXHIBIT PAGE

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## STIPULATION

(It is hereby stipulated and agreed by and between counsel for the respective parties that reading, signing, sealing, certification and filing are not waived.)

## PROCEEDINGS

MR. BABWAH: My name is Brandon Babwah. I'm a notary public out of the State of New York.

VIDEOGRAPHER: We are now on the record. My name is Jacob Stock. I'm a Certified Legal Video Specialist employed by Sargent's Court Reporting Services. The date today is March 24th, 2022. The current time on the video monitor reads 9:17 a.m. Eastern Standard Time. This deposition is taken remotely by videoconference. The caption of this case is the United States District Court for the Southern District of West Virginia at Charleston, BPJ, et al. versus West Virginia State of Board of Education, et al., Civil Action No. 2:21-cv-00316. The name of the witness is Joshua Safer. Will the attorneys present state their names and the parties they represent?

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ATTORNEY BROOKS: Roger Brooks for the Intervenor, Lainey Armistead, in the room --- in the conference room with the witness. With me is my colleague, Lawrence Wilkerson.

ATTORNEY HOLCOMB: Christiana Holcomb for the Intervenor.

ATTORNEY TRYON: This is David Tryon representing the State of West Virginia. I'm with the Attorney General's Office.

ATTORNEY MORGAN: This is Kelly Morgan on behalf of the West Virginia Board of Education and Superintendent Burch.

ATTORNEY DENIKER: Good morning. Susan Deniker representing Harrison County Board of Education and Superintendent Dora Stutler.

ATTORNEY GREEN: Roberta Green here on behalf of West Virginia Secondary School Activities Commission.

ATTORNEY BLOCK: For the Plaintiff in the room is Josh Block from the ACLU.

ATTORNEY SWAMINATHAN: And you have Sruti Swaminathan from Lambda Legal.

ATTORNEY HARTNETT: Good morning. This is Kathleen Hartnett from Cooley for the Plaintiff.

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1 ATTORNEY BARR: This is Andrew Barr from  
2 Coley for Plaintiff.  
3 ATTORNEY KANG: Good morning. This is  
4 Katelyn Kang from Cooley for the Plaintiff.  
5 ATTORNEY HELSTROM: Hello. This is Zoe  
6 Helstrom from Cooley for Plaintiff.  
7 VIDEOGRAPHER: And if that's everyone,  
8 may I ask the notary to swear in the witness?  
9 ---  
10 JOSHUA SAFER, M.D.,  
11 CALLED AS A WITNESS IN THE FOLLOWING PROCEEDING, AND  
12 HAVING FIRST BEEN DULY SWORN BY A NOTARY PUBLIC,  
13 TESTIFIED AND SAID AS FOLLOWS:  
14 ---  
15 VIDEOGRAPHER: May I also ask the notary  
16 to identify himself for the record as well?  
17 NOTARY: My name is Brandon Babwah.  
18 VIDEOGRAPHER: And at this time the  
19 notary may be dismissed and we can begin.  
20 ATTORNEY BROOKS: Thank you. And thank  
21 you all for making all this complicated stuff work.  
22 ---  
23 EXAMINATION  
24 ---

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1 BY ATTORNEY BROOKS:  
2 **Q. Doctor Safer, good morning. I want to first put**  
3 **in front of you your expert report and your rebuttal**  
4 **report so that you have those if at any point you want**  
5 **to refer to them. It looks --- for convenience let's**  
6 **mark those as Exhibit 1 and 2 for the deposition.**  
7 ATTORNEY TRYON: Roger, one moment. I'm  
8 looking at the realtime, and it's recording you as  
9 Attorney Capehart. So I don't know if that needs to be  
10 corrected now. And it's showing me as Attorney  
11 Hartnett.  
12 ATTORNEY BROOKS: She will get that fixed  
13 and the record will be correct.  
14 ATTORNEY TRYON: Okay.  
15 ---  
16 (Whereupon, Exhibit 1, Report of Dr. Safer,  
17 was marked for identification.)  
18 (Whereupon, Exhibit 2, Rebuttal Report of  
19 Dr. Safer, was marked for identification.)  
20 ---  
21 ATTORNEY BROOKS: And at the moment I'm  
22 handing copies to the witness. And I would like to mark  
23 as Safer Exhibit 3 a short article entitled Fairness for  
24 Transgender People in Sport by Joshua Safer.

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1 ATTORNEY WILKINSON: Tab 82.  
2 ---  
3 (Whereupon, Exhibit 3, Fairness for  
4 Transgender People in Sports Article, was  
5 marked for identification.)  
6 ---  
7 ATTORNEY BROOKS: And the court reporter  
8 will hand the stamped copy to the witness; am I correct?  
9 BY ATTORNEY BROOKS:  
10 **Q. And Doctor Safer, I will ask you questions if**  
11 **you go about your expert reports but let me ask you now**  
12 **to focus your attention on Exhibit Number 3. Am I right**  
13 **that this is an article that you have just very recently**  
14 **published?**  
15 A. Yes.  
16 **Q. When did this come out?**  
17 A. This came out within the past few weeks I think.  
18 **Q. And this is not a recording of the original**  
19 **research. This is a two page piece simply explaining**  
20 **current issues to the readership of this journal?**  
21 ATTORNEY BLOCK: Objection to form.  
22 THE WITNESS: So this is not original  
23 research, that's correct.  
24 ATTORNEY BROOKS: Thank you.

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1 BY ATTORNEY BROOKS:  
2 **Q. How would you describe the purpose of this**  
3 **article?**  
4 A. The purpose of this article is to educate  
5 endocrinologists, frame the issues and also serves a bit  
6 as a charge to endocrinologists in terms of work that  
7 needs to be done.  
8 **Q. Thank you. If you look at the first column of**  
9 **the first page, in the third paragraph you will see it**  
10 **begins a possible tension exists because of the**  
11 **observation that on average cisgender boys and men have**  
12 **better performance outcomes in athletics than do**  
13 **cisgender girls and women. Do you see that language?**  
14 A. I do.  
15 **Q. And you are referring there to the general**  
16 **observation that natal males have better average**  
17 **athletic performance than natal females in a variety of**  
18 **measures.**  
19 **Correct?**  
20 ATTORNEY BLOCK: Objection to form.  
21 THE WITNESS: So I guess I need to be  
22 more specific or I can clarify.  
23 BY ATTORNEY BROOKS:  
24 **Q. If you would be more specific.**

1 A. So cisgender men at a certain age have better  
2 sports outcomes than cisgender women.

3 **Q. But you wrote in this just published article**  
4 **that cisgender boys and men have better performance**  
5 **outcomes than the cisgender girls and women.**

6 **Correct?**

7 A. That is correct.

8 **Q. And what did you mean in that statement by your**  
9 **reference to boys and girls?**

10 A. Boys and girls who are basically --- it depends,  
11 it's context I guess. So boys and girls who are  
12 developed to that point.

13 **Q. So those --- what you had in mind are boys and**  
14 **girls, once the puberty process begins in males in**  
15 **particular?**

16 ATTORNEY BLOCK: Objection to form.

17 THE WITNESS: Yes, I guess I would say  
18 that what we know is what is towards the end of puberty  
19 and subsequent development beyond puberty.

20 BY ATTORNEY BROOKS:

21 **Q. You say in the next sentence --- well, let me**  
22 **just clarify, you accept as a scientific fact the**  
23 **general observation that, on average, boys and men,**  
24 **defining boys as you just did, have significantly**

1 **stronger athletic performance in a variety of metrics**  
2 **than girls and women as you just defined girls; correct?**

3 ATTORNEY BLOCK: Objection to form.

4 THE WITNESS: So I guess how I would say  
5 that is I accept as fact that men and boys who are  
6 appropriately developed have, yeah, have had performance  
7 outcomes in certain sports than do cisgender women and  
8 cisgender girls again appropriately developed.

9 BY ATTORNEY BROOKS:

10 **Q. And the next sentence reads the performance**  
11 **difference has resulted in the establishment of female**  
12 **only divisions for sport participation for girls and**  
13 **women and safely compete in the live events, closed**  
14 **quote. Do you see that language?**

15 A. I do.

16 **Q. And there you were, am I correct, explaining the**  
17 **relationship of your observation about male performance**  
18 **with the existence in our society of sex-separated**  
19 **sports.**

20 **Correct?**

21 ATTORNEY BLOCK: Objection to form.

22 THE WITNESS: So I guess --- I would  
23 think the way I would say it myself is this is a ---  
24 this is the reason why we have the carve-out for the

1 female category.

2 BY ATTORNEY BROOKS:

3 **Q. And one reason is to give cisgender girls and**  
4 **women an opportunity to, quote, reliably win events.**

5 **Correct?**

6 ATTORNEY BLOCK: Objection.

7 COURT REPORTER: I'm sorry, Counsel, I  
8 can't hear you.

9 BY ATTORNEY BROOKS:

10 **Q. One reason, according to what you've written in**  
11 **this article, that there have been a carve-out in a**  
12 **separate female division is to provide girls and women**  
13 **with opportunities to, quote, reliably win events,**  
14 **closed quote.**

15 **Correct?**

16 A. So I guess the way I would say it is if we are  
17 going to be really careful with the language here that  
18 it would be on average to reliably win events, that is  
19 --- yeah, I will leave it at that.

20 **Q. Certainly not every girl and women is going to**  
21 **win events, as I know as a male who never won an event?**

22 A. Exactly.

23 **Q. And another reason, according to this sentence**  
24 **that you wrote, for having a separate category for girls**

1 **and women is so that they can, quote, safely compete.**

2 **Correct?**

3 A. The word safely in that context is kind of ---  
4 accentuates reliably.

5 **Q. And you wrote in the next sentence that, quote,**  
6 **the female-only divisions are a major factor to**  
7 **encourage greater participation of girls and women in**  
8 **sports with a goal of equal participation rates.**

9 **Do you see that language?**

10 A. I do.

11 **Q. And can you explain to me what you understand or**  
12 **what you were trying to explain as the relationship**  
13 **between having a separate female category on the one**  
14 **hand and encouraging greater participation by women and**  
15 **girls on the other?**

16 A. Some of the goals of the people who are in sport  
17 who organize sport are to get as high fractions of the  
18 population to participate as can be encouraged to do so  
19 for sheer health of those individuals and then of  
20 everybody. And so the purpose of the carve-out then in  
21 these circumstances is to encourage girls and women to  
22 participate in larger numbers than they might otherwise.

23 **Q. And do you have an opinion, do you have an**  
24 **expert opinion as to whether the existence of separate**

1 categories for female sports has in fact been a, quote,  
2 major factor in encouraging greater participation by  
3 women and girls in sport?

4 A. I don't have an expert opinion.

5 **Q. You don't know whether that is objectively true**  
6 **or not?**

7 ATTORNEY BLOCK: Objection to form.

8 THE WITNESS: I don't --- right, I can't  
9 state as an expert on the details of that subject,  
10 that's right.

11 BY ATTORNEY BROOKS:

12 **Q. On the second column, in the --- the first full**  
13 **sentence begins many hormone related. Do you see that?**

14 A. Yes, I do.

15 **Q. Let me read that sentence into the record.**  
16 **Quote, many hormone-related physical characteristics**  
17 **acquired during puberty are not reversed if hormone**  
18 **levels are changed later in life. Can you tell us what**  
19 **physical characteristics associated with typical male**  
20 **development are in your opinion not reversed if hormone**  
21 **levels are changed later in life?**

22 A. Again, so I don't know that I would off the top  
23 of my head give an exhaustive list but a classic would  
24 be height.

1 **Q. Would you --- I understand your list may not be**  
2 **exhaustive, but let me ask you to tell us all the**  
3 **examples as you're able to sit here thinking today of**  
4 **physical characteristics acquired during male puberty**  
5 **that are not reversed if hormone levels are changed**  
6 **later in life.**

7 ATTORNEY BLOCK: Objection to form.

8 THE WITNESS: I don't know that I could  
9 --- I don't know that I would want to accidentally go  
10 down that path and conjecture too much, but if I'm  
11 expanding a bit on height and thinking about bone  
12 characteristics, especially there might be modest change  
13 but significant residual bone would be the biggest  
14 example. And some other elements --- I can't even say I  
15 was about to say a bit proportional, but it's more  
16 complicated than that, so other --- other tissues partly  
17 influenced by that fact.

18 BY ATTORNEY BROOKS:

19 **Q. If we jump down to the next paragraph it begins,**  
20 **quote, the questions arise most with transgender women**  
21 **who began hormone treatment after puberty. And then it**  
22 **continues, quote, the situation includes most**  
23 **transfeminine people because it is most common to**  
24 **undergo endogenous puberty prior to seeking medical**

1 interventions appropriate to gender identity. Have I  
2 read that correctly?

3 A. Yes.

4 **Q. And is it consistent with your experience that**  
5 **most natal males who seek what you refer to as gender**  
6 **confirming treatment do so after experiencing at least**  
7 **most of the ordinary male puberty?**

8 ATTORNEY BLOCK: Objection to form.

9 THE WITNESS: Yes. So just terminology,  
10 just to be clear, so people who are recorded male at  
11 birth who are looking for gender affirming is the term  
12 but gender confirming is fine. And sorry, the question  
13 there?

14 BY ATTORNEY BROOKS:

15 **Q. I will ask it again. Is it consistent with your**  
16 **personal experience that most natal males who seek**  
17 **gender affirming treatment present after undergoing at**  
18 **least most of a natural male puberty?**

19 ATTORNEY BLOCK: Same objection to  
20 terminology.

21 THE WITNESS: Yes. So most transgender  
22 women who come seeking medical treatment have gone  
23 through a typical male puberty, that is correct, right  
24 now.

1 BY ATTORNEY BROOKS:

2 **Q. And in your clinic most of them have gone**  
3 **through what you would consider to be a complete male**  
4 **puberty process?**

5 A. I can't answer that completely because we define  
6 puberty in this narrow way with the Tanner stages, but  
7 then people continue to have development even beyond  
8 that to a significant degree.

9 **Q. But they have experienced, in your professional**  
10 **experience, at least the bulk of the pubertal changes?**

11 A. Yes, I mean the --- I guess --- the way I would  
12 say it is, is that most of the transgender women who are  
13 coming or even girls who are coming for medical  
14 attention have gone through the classic Tanner stages of  
15 puberty through Tanner five, which is the last one, by  
16 the time they have determined that they're interested in  
17 gender-affirming treatment, yes.

18 **Q. And let's go back to the very first paragraph of**  
19 **your article in which you mention about five lines down,**  
20 **quote, concern for possible residual athletic advantages**  
21 **from a history of typical male puberty, closed quote.**  
22 **Do you see that language?**

23 A. Let me find it. Where is it?

24 **Q. It's about five lines down on the very first**



1 paragraph of the article.

2 A. Oh, the middle of the sentence, exactly.

3 **Q. And so in your opinion, it is concern for**  
4 **possible residual athletic advantages from a history of**  
5 **typical male puberty that drives a great deal of concern**  
6 **about how to address inclusion of natal males who**  
7 **experience a female gender identity in female athletics.**

8 **Am I correct?**

9 ATTORNEY BLOCK: Objection to form.

10 THE WITNESS: So the concern about the  
11 residual impact of testosterone during puberty for  
12 transgender women who went through a typical male  
13 puberty is the source of --- right, is a source of  
14 tension at a medical sensitive level, yes.

15 BY ATTORNEY BROOKS:

16 **Q. And that's an issue that, for instance, you**  
17 **engage in extensive discussions about in connection with**  
18 **your service on the committee for the IAAF.**

19 **Am I correct?**

20 A. So the --- right, the conversation at World  
21 Athletics now, but formerly IAAF, has dealt and I'm sure  
22 will continue to deal with that which is the question of  
23 to what degree are some of those characteristics, a  
24 cause for relevant athletic advantage.

1 **other considerations of fairness, of inclusion, that is**  
2 **not your expertise is what you are telling me?**

3 A. That is right, that is not my expertise.

4 **Q. If we go to page two, in the first column, the**  
5 **second full paragraph begins because testosterone. Do**  
6 **you see that paragraph?**

7 A. I do.

8 **Q. And you discuss there World Athletic**  
9 **requirements, that is the former IAAF I believe you just**  
10 **testified?**

11 A. Yes.

12 **Q. And the World Athletics has adopted a**  
13 **requirement to suppress testosterone (sic) to five**  
14 **nanomolar per liter testosterone.**

15 **Correct?**

16 A. World Athletics threshold is five nanomolar per  
17 liter for those sports where they have a threshold.  
18 That's right, yes.

19 **Q. And at least formally the International Olympic**  
20 **Committee had a ten nanomolar threshold as part of what**  
21 **you would call out in this paragraph.**

22 **Is that correct?**

23 ATTORNEY BLOCK: Objection to form.

24 THE WITNESS: Yes. So it was the case

1 **Q. And in your opinion, concern about possible**  
2 **residual athletic advantages resulting from a history of**  
3 **typical male puberty is legitimate concern.**

4 **Right?**

5 ATTORNEY BLOCK: Objection to form.

6 THE WITNESS: Right. I don't know that  
7 I'm as an expert commenting on its legitimacy. My role  
8 on the committee is talking about what is.

9 BY ATTORNEY BROOKS:

10 **Q. Do you have any expert opinion as to whether**  
11 **concern for possible residual athletic advantages from a**  
12 **history of typical male puberty is a legitimate concern?**

13 A. I'm sorry. Say that again.

14 **Q. Do you have any expert opinion as to whether**  
15 **concern for possible residual athletic advantage from a**  
16 **history of a typical male puberty is a legitimate**  
17 **concern?**

18 A. I don't know that I would --- again, I don't  
19 know that I'm an expert on what is legitimate or not. I  
20 come into the room as the scientist talking about what  
21 is true and what is not true, what do we know and what  
22 do we not know.

23 **Q. So on the question then after the science has**  
24 **been put on the table as to how to balance that with**

1 that the International Olympic Committee Medical Group  
2 was trying to form a unified approach just for purposes  
3 of organization. And at that time a ten nanomolar per  
4 liter suggestion was put out. And that is about as far  
5 as it got because it then was shifted to all of the  
6 individual international federations.

7 BY ATTORNEY BROOKS:

8 **Q. You say in the final sentence of that paragraph,**  
9 **quote, such thresholds are considered to be fair to**  
10 **transgender women because they are well above the 1.7**  
11 **nanomolar per liter target testosterone threshold in**  
12 **medical treatment guidelines, closed quote.**

13 **Do you see that language?**

14 A. Yes.

15 **Q. Am I correct that in your professional**  
16 **understanding the 1.7 nanomolar per liter target is set**  
17 **because that's generally believed to be at the upper**  
18 **range of testosterone levels in normal, healthy females?**

19 ATTORNEY BLOCK: Objection to form.

20 THE WITNESS: So the 1.7 nanomolar per  
21 liter target is the upper level for adults cisgender  
22 women.

23 BY ATTORNEY BROOKS:

24 **Q. And with that clarified, can you explain to me**



1 **what you meant by the sentence that I just read, what**  
2 **the point is there?**

3 A. The point of the sentence is to --- I guess  
4 there are a couple of considerations in terms of  
5 determining these numbers, but --- so part of the point  
6 is to identify numbers that are feasible for transgender  
7 women on their medical treatment.

8 **Q. Is there some other point to this sentence in**  
9 **your understanding as it is offered?**

10 ATTORNEY BLOCK: Objection to form.

11 THE WITNESS: So the sentence references  
12 that piece, but there is the additional context of  
13 having a number that is fair to the greater female  
14 committee cisgender and transgender too.

15 BY ATTORNEY BROOKS:

16 **Q. So it's fair in your judgment to transgender**  
17 **women because the threshold that is being set gives,**  
18 **what should we say, plenty of buffer above what is**  
19 **considered to be the upper range of normal female**  
20 **testosterone levels?**

21 ATTORNEY BLOCK: Objection to form.

22 THE WITNESS: Right. So I'm not taking a  
23 position on what is fair to be clear.

24 BY ATTORNEY BROOKS:

1 women has an upper limit of 1.7 nanomolar per liter,  
2 there are cisgender women who, for a variety of reasons,  
3 have numbers higher than that and so that and --- so  
4 that is part of the consideration.

5 BY ATTORNEY BROOKS:

6 **Q. Let me take you to the two paragraphs below that**  
7 **to the paragraph that begins the societal priorities.**  
8 **Do you see that paragraph?**

9 A. I do.

10 **Q. The last sentence of that paragraph reads if**  
11 **advantage from testosterone is demonstrated, does**  
12 **society want to implement rules that may indirectly**  
13 **coerce transgender children to begin medical regimens**  
14 **prior to their being ready and that they might never**  
15 **actually choose otherwise, closed quote.**

16 **Do you see that language?**

17 A. I do.

18 **Q. Would you explain to me the concern that you are**  
19 **expressing there?**

20 A. If a societal goal --- and again here recognize  
21 I'm not acting as an expert in this space, but I'm  
22 trying to explain to my colleagues what people are  
23 discussing. And if our concern is increased  
24 participation in sport by various people, then you can

1 **Q. Thank you.**

2 A. But the concept of those in the room making that  
3 distinction felt that this cutoff would be fair because  
4 there would be, indeed, create some buffer and,  
5 therefore, people who weren't perfectly at goal would  
6 still be included.

7 **Q. So because this may be important, let me**  
8 **clarify, when you wrote such thresholds are considered**  
9 **to be fair, you were not offering a personal opinion**  
10 **about fairness but explaining the judgment that had been**  
11 **made by this committee about fairness?**

12 A. That's correct.

13 **Q. Thank you. And did it cause you personally any**  
14 **concern that the threshold --- that because the**  
15 **threshold that was set was more than three times higher**  
16 **than the upper bounds of testosterone concentrations in**  
17 **normal healthy women, that that might be unfair to the**  
18 **broader population of cisgender women?**

19 ATTORNEY BLOCK: Objection to form.

20 THE WITNESS: So to be clear, I'm not  
21 rendering an opinion as an expert on what is fair, but I  
22 can interpret the considerations of people having these  
23 conversations. And so while it is true that the  
24 laboratory range for testosterone for healthy cisgender

1 envision a circumstance where some girls farther along  
2 in puberty have a testosterone advantage that could be  
3 demonstrated. Again, not that we even have at this  
4 point. And then we would be faced with that question,  
5 which is that competing goal of making those transgender  
6 girls participate in sports and a recognition if they  
7 are sufficiently far along in their development that  
8 they may have an advantage if we demonstrate such an  
9 advantage.

10 **Q. Let me see if I can break that out. Were you**  
11 **talking here about a concern about a hypothetical rule**  
12 **that says to a natal male who identifies as female that**  
13 **you may play if you have suppressed testosterone --- you**  
14 **may play if you have taken puberty blockers at an early**  
15 **age but you may not play if you have not taken puberty**  
16 **blockers from an early stage? Is that the hypothetical**  
17 **structure that you were addressing in this sentence?**

18 ATTORNEY BLOCK: Objection to form.

19 THE WITNESS: So the --- it is a  
20 hypothetical and it would be that if we make a specific  
21 testosterone lowering rule at a scholastic level, might  
22 we run into a circumstance where we are encouraging  
23 somebody to make medication who might not otherwise take  
24 that medication.

1 BY ATTORNEY BROOKS:

2 **Q. And staying away from questions of fairness and**  
 3 **speaking from what I think is a medical ethics**  
 4 **perspective, would you think it raises ethical problems**  
 5 **if society were to adopt a rule that permitted certain**  
 6 **individuals to compete in female athletics if they had**  
 7 **taken puberty blockers but did not permit them to**  
 8 **compete with the athletic if they had not taken puberty**  
 9 **blockers?**

10 ATTORNEY BLOCK: Objection to form.

11 THE WITNESS: I think that's beyond where  
 12 I'm commenting as an expert witness. Some of that  
 13 decision is a society decision or for other experts.

14 BY ATTORNEY BROOKS:

15 **Q. Do you consider yourself to have some expertise**  
 16 **on medical ethics?**

17 A. Not as an expert.

18 **Q. And you don't feel able --- you don't have any**  
 19 **opinion as you sit here today as to whether a policy**  
 20 **that created incentives for children to begin medical**  
 21 **regimes relating to gender transition could raise**  
 22 **medical ethical concerns?**

23 A. Not as a medical expert, that's right.

24 **Q. In the next paragraph --- and I think we said**

1 **this is just out in the last couple of weeks, this**  
 2 **publication.**

3 **Right?**

4 A. It's very fresh. Number five, so yes.

5 **Q. I'm not playing memory games. It says at the**  
 6 **top advance access publication 17 March 2022?**

7 A. Good.

8 **Q. So very recent?**

9 A. Yes.

10 **Q. And you believe you are reasonably current in**  
 11 **the science of this area?**

12 A. I am reasonably current, indeed.

13 **Q. I didn't ask if you know it all because nobody**  
 14 **knows it all, but you say at the beginning of this**  
 15 **paragraph much remains unknown scientifically. And you**  
 16 **continue, quote, for example, at what point in puberty**  
 17 **is advantage from testosterone significant. Is there a**  
 18 **point where such advantage would outweigh a priority to**  
 19 **outweigh all participants --- all to participate in**  
 20 **sport of some sort, closed quote.**

21 **Do you see that language?**

22 A. I do.

23 **Q. And actually the point in writing the second**  
 24 **sentence there --- strike that.**

1 **Let me just ask this in general. Do you have**  
 2 **an opinion as to how much of a performance advantage**  
 3 **would count for those --- for natal males versus natal**  
 4 **females, how much of a performance advantage would be,**  
 5 **quote, significant?**

6 ATTORNEY BLOCK: Objection to form.

7 THE WITNESS: I do not have an opinion.

8 BY ATTORNEY BROOKS:

9 **Q. And in your view, is that even a scientific**  
 10 **question?**

11 ATTORNEY BLOCK: Objection to form.

12 THE WITNESS: Let me think. No, that  
 13 isn't a scientific question.

14 BY ATTORNEY BROOKS:

15 **Q. And you --- and the next sentence is there a**  
 16 **point where an advantage, such an advantage would**  
 17 **outweigh a priority to motivate all to participate. Am**  
 18 **I correct that you also don't consider that to be a**  
 19 **scientific question?**

20 A. That is correct.

21 **Q. That is a value judgment?**

22 ATTORNEY BLOCK: Objection to form.

23 THE WITNESS: So it's not a scientific  
 24 question. I can go a little more in --- I can expand a

1 little bit there which is to say that we have various  
 2 advantages and degrees of unfairness. So what could be  
 3 a scientific question, if we knew the answers, would  
 4 include the degree of advantage for some circumstance  
 5 versus another circumstance where we are able to measure  
 6 those things.

7 BY ATTORNEY BROOKS:

8 **Q. But the question of whether an advantage on the**  
 9 **one hand outweighs a desire to be inclusive on the other**  
 10 **hand is a value question, not a scientific question?**

11 ATTORNEY BLOCK: Objection to form.

12 BY ATTORNEY BROOKS:

13 **Q. In your opinion.**

14 ATTORNEY BLOCK: Objection to form.

15 THE WITNESS: So I guess I would just go  
 16 back to saying how I said it, which is the scientific  
 17 question in there would be to provide that degree of  
 18 difference and show, for example, that this would be ---  
 19 this is small advantages versus someone that we are  
 20 already do in society as big advantage and that would be  
 21 how --- that would be the role of the scientist.

22 BY ATTORNEY BROOKS:

23 **Q. I understand that's what you would like to say,**  
 24 **but my question for you is, in your opinion, is the next**

1 **step of deciding of whether that advantage which has now**  
 2 **been scientifically detailed outweighs a priority to**  
 3 **motivate all to participate is a value decision.**

4 ATTORNEY BLOCK: Objection to form.

5 THE WITNESS: Yeah, I don't --- I guess I  
 6 can't as an expert say for certain that in all  
 7 circumstances that is a value to consider.

8 BY ATTORNEY BROOKS:

9 **Q. You continue among your lists of things that**  
 10 **are, quote, unknown scientifically, quote, for those who**  
 11 **have completed puberty, what duration of**  
 12 **testosterone-lowering treatment is sufficient to create**  
 13 **a level playing field in a given sport, closed quote.**

14 **Do you see that?**

15 A. Yes.

16 **Q. And in your view, the question of what duration**  
 17 **of testosterone lowering treatment, if any, can be**  
 18 **sufficient to create a level playing field in a given**  
 19 **sport is currently unknown scientifically?**

20 ATTORNEY BLOCK: Objection to form.

21 THE WITNESS: It's unknown scientifically  
 22 across virtually all sports. What duration of  
 23 testosterone lowering raises what degree of advantage.  
 24 It's just at that level. To go to the level playing

1 field is a whole further tier.

2 BY ATTORNEY BROOKS:

3 **Q. And in your final paragraph I think you said at**  
 4 **the beginning that, in part, this was a call to the**  
 5 **field of endocrinology for needed research. In the**  
 6 **final paragraph you say, quote, we in the endocrine**  
 7 **healthcare community have much work to do to create an**  
 8 **evidence base to help guide decision makers so the**  
 9 **choices for transgender women in sport are data driven,**  
 10 **closed quote.**

11 **Have I read that language correctly?**

12 A. Yes.

13 **Q. So it's your view as of 2002 that the data that**  
 14 **we have available today are insufficient to enable data**  
 15 **driven choices about transgender participation in female**  
 16 **athletics.**

17 **Correct?**

18 ATTORNEY BLOCK: Objection to form.

19 THE WITNESS: I would say that in 2022 we  
 20 have insufficient data to --- how would I say this, we  
 21 have insufficient data to make rules for, let's say,  
 22 transgender women, mostly talking about older more  
 23 developed people, that would address these concerns for  
 24 participation.

1 BY ATTORNEY BROOKS:

2 **Q. Let me ask you to find your initial expert**  
 3 **report, which is Exhibit-1, and there I will ask you to**  
 4 **turn to paragraph 58. At the beginning of paragraph 58**  
 5 **you wrote in this report executed on January 21, 2022,**  
 6 **which is two months prior to the publication date of the**  
 7 **article we just looked at --- and actually, let me pause**  
 8 **and ask you, when did you write the article that we just**  
 9 **looked at? And the process always grinds on for a**  
 10 **little while. When do you think you substantially**  
 11 **completed the task?**

12 A. I honestly don't remember.

13 **Q. Sorry. The question was when do you think you**  
 14 **substantially wrote the text in the article that you**  
 15 **just looked at?**

16 A. I honestly don't remember the details. We can  
 17 talk in years, so it would be 2022 and back into 2021.

18 **Q. Okay.**

19 **So about the same time that you were preparing**  
 20 **this expert report?**

21 A. There certainly would be some overlap.

22 **Q. You wrote in paragraph 58, quote, even if**  
 23 **evidence were eventually to show that on average**  
 24 **transgender women have some level of advantage compared**

1 **to average non-transgender women, closed quote.**

2 **Do you see that language?**

3 A. I do.

4 **Q. Now, in fact, you are aware of substantial**  
 5 **evidence that, on average, transgender women do have**  
 6 **some level of advantage compared to advantage**  
 7 **non-transgender women.**

8 **Correct?**

9 ATTORNEY BLOCK: Objection to form.

10 THE WITNESS: No, I'm not. So that isn't  
 11 my statement.

12 BY ATTORNEY BROOKS:

13 **Q. And is the question --- so you served on the**  
 14 **IAAF Committee discussing questions of testosterone**  
 15 **levels. And in that context you did not become**  
 16 **acquainted with data showing that on average transgender**  
 17 **women have some level of advantage compared to average**  
 18 **non-transgender women?**

19 A. Not in --- so, no. In the context of specific  
 20 sports, no.

21 **Q. Do you consider the question of how much**  
 22 **advantage natal males have over natal females in**  
 23 **particular sports to be within your professional**  
 24 **expertise?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So sorry --- so cisgender

men versus cisgender women, that difference at an adult level, is at my expertise to know that degree of difference? Is that the question?

BY ATTORNEY BROOKS:

**Q. It is.**

A. No, that is not my expertise.

**Q. And is it within your expertise to know the level of advantage enjoyed by natal males who have transitioned to female gender identity over cisgender women in any particular sport?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So in the --- so if we are talking cisgender women versus transgender women, it would be in my expertise to know what data we have on this subject, which is different from knowing the degree of difference because we don't have those data.

BY ATTORNEY BROOKS:

**Q. You say in paragraph 60, let me find this, quote, there is no inherent reason why transgender women physiological characteristics related to athletic performance should be treated as any more of an unfair advantage than the advantages that already exist among**

**different women athletes. Do you see that language?**

A. I do.

**Q. Now, earlier you told me rather emphatically that the question of fairness is outside your professional expertise.**

**Correct?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: It is outside my expertise.

BY ATTORNEY BROOKS:

**Q. So why did you offer here an opinion about what is fair or unfair?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Right. So I'm not determining the fairness per se as an expert, but I'm simply talking about the inputs where somebody who is determining what is fair --- where somebody is determining what is fair would consider.

ATTORNEY BROOKS: Let me mark as Safer Exhibit 4 an article by Professor Handelsman entitled Circulating Testosterone on a Hormonal Basis of Sex Differences in Athletic Performance.

---

(Whereupon, Exhibit 4, Professor Handelsman Article, was marked for identification.)

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ATTORNEY WILKINSON: Tab 18.

VIDEOGRAPHER: I'm sorry, what tab is it?

ATTORNEY BROOKS: Tab 18.

BY ATTORNEY BROOKS:

**Q. And Doctor Safer, am I correct this is an article that you read with some care?**

A. This is an article that I read with some care.

**Q. You cited in your expert report.**

**Correct?**

A. I think so.

**Q. I think so, too. It's not a memory test. I retract the question. We will come to it shortly.**

**Let me ask you to turn in --- and let me ask you, do you know Professor Handelsman personally?**

A. I do not.

**Q. Have you encountered him in any other actions?**

A. I have.

**Q. Once, more than once?**

A. That is also a trick question for me. For sure once.

**Q. Okay.**

**Do you consider him to have a high reputation in the field?**

A. If that question is as an expert I can't --- I won't comment, but he certainly has published widely and we quote him.

**Q. What do you mean by we in that answer?**

A. The rest of us in the field and I certainly quote him in an expert opinion.

**Q. All right.**

**And this article in particular we note you widely reference?**

A. This article is --- yeah, I think that is actually a fair thing to say. It is as widely referenced as anything in a relatively small field.

**Q. Let me ask you to turn to the second page of this article where Professor Handelsman in the first full paragraph --- the second full paragraph begins nevertheless. He says, quote, fairness is an elusive subjective concept with malleable boundaries that may change over time as social concepts of fairness evolve.**

**Do you see that?**

A. I do.

**Q. Do you agree with that statement?**

A. As an expert I can't comment.

**Q. You don't purport to be able to give any definition of fairness?**

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1 ATTORNEY BLOCK: Objection to form.

2 THE WITNESS: Yes, not as an expert.

3 BY ATTORNEY BROOKS:

4 **Q. And you don't have any opinion as to whether**  
5 **standards of fairness can change over time?**

6 ATTORNEY BLOCK: Objection to form.

7 THE WITNESS: I'm aware of the  
8 conversation on the subject, of course, but if you are  
9 asking me to comment as an expert, then no.

10 BY ATTORNEY BROOKS:

11 **Q. If the actual evidence shows that the actual**  
12 **scientific data were to show that, quote, on average**  
13 **transgender women have, closed quote, a very large**  
14 **advantage compared to average non-transgender women,**  
15 **would you then have any view as to whether permitting**  
16 **non-transgender women to compete in female categories is**  
17 **fair?**

18 ATTORNEY BLOCK: Objection to form. I'm  
19 sorry, what's the quotation?

20 BY ATTORNEY BROOKS:

21 **Q. If actual data were to show that on average**  
22 **transgender women have a very large advantage compared**  
23 **to non-transgender women, then would you have any**  
24 **opinion as to whether it is fair to permit the**

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1 **have substantially more favorable physiques than others?**

2 ATTORNEY BLOCK: Objection to form.

3 THE WITNESS: Right. So for any given  
4 sport some women have advantages relatively to others,  
5 yes.

6 BY ATTORNEY BROOKS:

7 **Q. And in basketball some are simply genetically**  
8 **going to be substantially taller than others?**

9 A. In basketball some are taller than others, yes.

10 **Q. I'm not speaking for you, I, at 5'8", in my**  
11 **shoes for instance was --- am just physiologically**  
12 **disadvantaged for basketball compared to a man who is**  
13 **6'10"?**

14 ATTORNEY BLOCK: Objection to form.

15 THE WITNESS: So as an expert I actually  
16 wouldn't go there because there are other  
17 characteristics in basketball per se.

18 BY ATTORNEY BROOKS:

19 **Q. That's true, although I have none of them. But**  
20 **is it, in your view, equally true that there is no**  
21 **inherent reason why cisgender men's physiological**  
22 **characteristics related to athletic performance should**  
23 **be treated as any more of an unfair advantage for**  
24 **competing in the women's category than the advantages**

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1 **transgender women to compete in the female category?**

2 ATTORNEY BLOCK: Objection to form.

3 THE WITNESS: No, that would not change.  
4 I would simply as an expert I would talk about those  
5 degrees of difference as information.

6 BY ATTORNEY BROOKS:

7 **Q. But you would offer no opinion as to whether**  
8 **permitting the participation in the female category was**  
9 **or was not appropriate?**

10 A. I would not offer an expert opinion. That's  
11 right.

12 **Q. Now, you say in paragraph 60 of your expert**  
13 **record that there is, quote, no inherent why transgender**  
14 **women's physiological characteristics related to**  
15 **athletic performance should be treated as any more of an**  
16 **unfair advantage than the advantages that already exist**  
17 **among different women athletes, close quote. We have**  
18 **looked at that language.**

19 **Correct?**

20 A. You are reading that correctly.

21 **Q. Thank you.**

22 A. Whatever the question is.

23 **Q. No question beyond that so far. And your point**  
24 **I take it is that for any given sport some women just**

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1 **that already exist among different women athletes?**

2 A. So yeah, let's go through this more slowly a  
3 second so I'm clear.

4 **Q. All I did was substitute cisgender men for**  
5 **transgender women in that sentence. And my question is**  
6 **doesn't your argument as stated there apply exactly with**  
7 **equal force to cisgender male?**

8 A. No.

9 **Q. Why is that?**

10 A. When we talk about --- when we're talking about  
11 a range of characteristics among a range of people  
12 versus something that might be systematically true or  
13 not and so it just --- so the answer just ends up being  
14 more complex.

15 **Q. Well, you have testified that most natal women**  
16 **--- pardon me, you testified that most natal males with**  
17 **female gender identity have undergone at least the**  
18 **majority of male puberty before they present for gender**  
19 **affirming treatment.**

20 **Correct?**

21 ATTORNEY BLOCK: Objection to form.

22 THE WITNESS: So most cisgender women  
23 when they come to medical attention have gone through a  
24 significant puberty, the five Tanner stages.



BY ATTORNEY BROOKS:

**Q. And just to clarify, to use your terms, in giving that answer you said cisgender women. That is not what you meant.**

**Correct?**

A. That is not what I meant, thank you. Transgender women.

**Q. And therefore, they systematically have gone through --- systematically gone through physiologic changes associated with male puberty?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the --- so they --- they have gone through male puberty. And there is something on average that may be true there, but whether that relates to an advantage in a specific sport I can't go there.

BY ATTORNEY BROOKS:

**Q. Well, the example that you gave earlier of a systematic difference resulting from male puberty that these transgender women enjoy is height, that is you mentioned that earlier.**

**Correct?**

A. Uh-huh (yes).

**Q. So again, let me ask, given that according to**

**advantage in the sport they wish to play in as a result of typical male development that they had gone through?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Right, I'm not offering an opinion. It was a long question.

BY ATTORNEY BROOKS:

**Q. Would you like to hear the question back?**

A. Sure, but I'm not offering an opinion on several aspects.

ATTORNEY BROOKS: Would you read that question back, please?

---

(COURT REPORTER READS BACK PREVIOUS QUESTION.)

---

BY ATTORNEY BROOKS:

**Q. And your answer is?**

A. So I'm not offering an opinion. I should expand a bit because how that question was phrased as an individual by individual person and most of these rules are across a group of sports.

**Q. And my question was about an individual person.**

A. Your question was an individual person, but ---.

**Q. Right. Looking at your paragraph 60, again, do you believe there is --- are you offering an opinion ---**

**your testimony and experience the substantial majority of transgender women have undergone most of male puberty, why is it not equally true that there is no inherent reason why cisgender men's physiological characteristics related to athletic performance should be treated as any more of an unfair advantages than the advantages that already exist among different women athletes?**

A. So if I'm following this correctly then it's --- then the answer to the question why are cisgender men different than transgender women?

**Q. Why does this logic apply differently to the cisgender men than to the transgender women?**

A. So let's see. It actually doesn't. So if you have a sport where that --- where the advantage or --- for the --- where a known advantage for cisgender men versus cisgender women was sufficiently modest, and again, I wouldn't be the judge of that, but you could envision that becoming a coed sport.

**Q. Are you offering an opinion that either government or leagues have an obligation to do an individual by individual assessment as to whether a particular natal male who experiences a female gender identity does or does not enjoy a physiological**

**let me start that again. Are you able to identify for me any inherent reason why a relatively weak or small or slow male --- strike that.**

**You referenced in your report and also the article we just looked at the IAAF regulations that excluded from the female category any individual who has circulating testosterone higher than five nanomolar per liter. Do you recall that?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So just to clarify, it is not --- that rule for five nanomolars is not across all sports.

BY ATTORNEY BROOKS:

**Q. And which sports in your recollection did that apply to?**

A. Yeah, that's --- I don't remember off the top of my head.

**Q. At the very least it applied to track events.**

**Correct?**

A. It does. But if you start to quiz me on the specific distances, I won't get that.

**Q. And nor will I so quiz you. And that requirement as applied to track competition was, in fact, the subject of a major international arbitration,**

1 as you're aware.

2 **Correct?**

3 A. If we're referencing the Caster Semenya case,  
4 yes.

5 **Q. Did you yourself have any participation in that**  
6 **arbitration?**

7 A. I did not.

8 **Q. Do you know whether Doctor Handelsman had any**  
9 **participation in that?**

10 ATTORNEY BLOCK: Objection.

11 THE WITNESS: I don't know off the top  
12 off of my head.

13 BY ATTORNEY BROOKS:

14 **Q. Have you ever read the arbitral decision in**  
15 **that case?**

16 A. I'm certain I read excerpts, but that is as much  
17 as I could say.

18 **Q. Okay.**

19 You participated in developing on the --- a  
20 member of the committee that developed the regulation  
21 that you've referenced, the 7.5 nanomolar threshold?

22 A. I was on the committee that helped determine  
23 that particular threshold conceptual, yes.

24 **Q. And you're aware that in addition to individuals**

1 **Q. And you thought that that rule was reasonable?**

2 A. As with the data we have currently, yes,  
3 personally.

4 **Q. And what, in your opinion, is the inherent**  
5 **reason that advantages conferred by testosterone levels**  
6 **far outside the normal female range should be treated as**  
7 **any more of an unfair advantage than the advantages that**  
8 **already exist among different women athletes?**

9 ATTORNEY BLOCK: Objection. I'm sorry.  
10 Can you clarify as an expert or as an individual just  
11 because you shifted back and forth?

12 BY ATTORNEY BROOKS:

13 **Q. First as an expert.**

14 A. So yes --- give me the question again. I'm  
15 sorry.

16 **Q. What, in your opinion, is the inherent reason**  
17 **that advantages conferred by testosterone levels outside**  
18 **the normal female range should be treated as any more of**  
19 **an unfair advantage than the advantages that already**  
20 **exist among different women athletes?**

21 A. So to clarify we --- so, okay, let me go back.  
22 Let me answer in pieces I guess or ask you to say it in  
23 pieces. So what is different between typical male  
24 levels of testosterone in an individual and some other

1 **such as Caster Semenya, who suffered of a disorder of**  
2 **sexual development, that that rule would exclude some**  
3 **transgender women from female athletics that were**  
4 **subject to that IAAF rule.**

5 **Correct?**

6 ATTORNEY BLOCK: Objection to the  
7 terminology.

8 THE WITNESS: So I was aware that by  
9 setting a threshold that there --- and even that  
10 threshold in particular, that there would be transgender  
11 women who would not achieve that threshold for whatever  
12 reason.

13 BY ATTORNEY BROOKS:

14 **Q. And did you nevertheless consider the regulation**  
15 **to be reasonable?**

16 A. If you are asking me as an expert, then again I  
17 can't comment.

18 **Q. Well, let me just ask you as Doctor Safer.**

19 A. Am I allowed to ---?

20 ATTORNEY BLOCK: Objection to form.

21 BY ATTORNEY BROOKS:

22 **Q. You are allowed.**

23 A. Okay. So having a rule does make sense to me,  
24 yes.

1 characteristics that are across the range of  
2 characteristics of cisgender women? Is that the  
3 question? Am I rephrasing that correctly?

4 **Q. I'm actually referencing paragraph 60 of your**  
5 **expert report, but my question --- and let's take for**  
6 **instance, a natal male who has press testosterone but**  
7 **only achieved six nanomolar per liter concentration, do**  
8 **you have that concentration, do you have that in mind?**

9 A. A transgender woman whose testosterone level is  
10 six.

11 **Q. Right. What in your opinion is the inherent**  
12 **reason that advantages conferred by testosterone levels**  
13 **above a threshold such as five nanomolars should be**  
14 **treated as any more of an unfair advantage than the**  
15 **advantages that already exist among different women**  
16 **athletes?**

17 ATTORNEY BLOCK: Objection to form.

18 THE WITNESS: So a couple of things.  
19 First of all, I don't know that a testosterone level of  
20 six is from a scientific perspective demonstratively  
21 different than a testosterone level of five. It's just  
22 a matter of affecting it overall. So I want to clarify  
23 that. It's not that --- that that small degree is  
24 necessarily relevant. And I can't even say that we



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demonstrated advantage. It's still a theoretical with regard to some of those higher testosterone levels. Let me think about those for a second. Yes, so some of the logic pattern for having a threshold is in order to be able to limit the entire conversation to dealing with transgender women or women with --- or intersex women or women who for any reason have have elevated testosterone levels and not to open the door at the elite level for a participation by cisgender men posing as cisgender women if that makes sense.

BY ATTORNEY BROOKS:

**Q. Is there, in your judgment, any inherent reason that advantages conferred by testosterone levels well outside normal female ranges should be treated as any more of an unfair advantage than the advantages that already exist among different women athletes?**

A. So I have to go back to that one. Is it my opinion that male level testosterone levels ---?

**Q. Let me --- my question is testosterone levels significantly above normal female ranges?**

A. Are --- then no, sorry. It took me a little while to get there, but no.

**Q. Because the question was complicated and the answer was broken up I will ask you again, not to insult**

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**you but so we have a clear record. I think I understood your answer but is there, in your opinion, any reason why advantages provided by testosterone level well outside normal female ranges should be treated as any more of an unfair advantage than the advantages that already exist among different women athletes?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: And as an expert I'm not rendering an opinion there, that's right.

BY ATTORNEY BROOKS:

**Q. Okay.**

**In paragraph 55 of your ---.**

ATTORNEY BLOCK: Would now be a good time for a break?

ATTORNEY BROOKS: Let me just ask this one question and then yes.

BY ATTORNEY BROOKS:

**Q. In paragraph 55 you cite a 2015 article by Joanna Harper?**

A. I do, yes.

**Q. Have you ever met Joanna Harper?**

A. I have.

**Q. And have you collaborated with Joanna Harper in any way?**

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ATTORNEY BLOCK: Objection to the form.

THE WITNESS: Yeah, I don't, but I guess

--- it's a complicated answer, so I need to know what you mean by that.

BY ATTORNEY BROOKS:

**Q. I mean it broadly. Have you worked with her on any sorts of projects or committees?**

A. Well, we were both in the working group for World Athletics that helped develop this threshold.

**Q. And do you consider Doctor Harper to be knowledgeable in the field of sports physiology?**

A. I do.

**Q. And do you consider Doctor Harper to be knowledgeable with regard to the impact of testosterone suppression on athletic capabilities in male?**

A. So do I consider her to be knowledgeable in the field? I certainly do. For what it's worth, she is still Ms. Harper. She's actually in the Ph.D. program now.

**Q. Oh, okay. I just gave her an honorary degree.**

A. She occupies a prominent place in the field.

ATTORNEY BROOKS: Let's take that break.

VIDEOGRAPHER: Going off the record. The current time is 10:25 a.m. Eastern Standard Time.

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OFF VIDEOTAPE

---

(WHEREUPON, A SHORT BREAK WAS TAKEN.)

---

ON VIDEOTAPE

VIDEOGRAPHER: We are back on the record. Current time reads 10:39 a.m. Eastern Standard Time.

BY ATTORNEY BROOKS:

**Q. Dr. Safer, let me ask you to go back to Exhibit 4 Professor Handelsman's article. And if you would turn in that article to page 805, the first paragraph begins the strongest classification in a league sport is that after puberty men 20 times more testosterone than women.**

**Do you see that language?**

A. I do.

**Q. And he discusses a number of results and ends his paragraph by saying in concert --- quote, in concert these render women on average unable to compete effectively against men in power based or endurance based sports.**

**Do you see that?**

A. I do.

**Q. And do you consider yourself qualified to evaluate Professor Handelman's assertion that women are**

1 on average unable to compete effectively against men in  
2 power based or endurance based sports?

3 A. No.

4 Q. Not qualified?

5 A. Not qualified, correct.

6 Q. Do you believe you have an understanding ---  
7 well, let me ask you this. Do you consider yourself  
8 qualified to offer any opinion as to why sports have  
9 been separated by sex historically?

10 A. I guess I would say I'm aware of the history.

11 Q. And in your understanding what is the reason  
12 that sports have been separated by sex historically?

13 A. The history is that at a certain point where  
14 sufficient development has taken place there is a  
15 differential in at least some sports between men and  
16 women --- between cisgender men and cisgender women such  
17 that in order for women to win those events reliably  
18 there needs to be a carve-out.

19 Q. And as you sit here today can you identify for  
20 me any sport in which you believe that cisgender men  
21 after puberty do not enjoy a significant performance  
22 advantage over cisgender women?

23 A. Yes.

24 Q. Please do.

1 A. Examples include --- well, I guess I better not  
2 get too far and be the expert here, but I believe  
3 riflery and others in the category of hand/eye  
4 coordination. I think some of the equestrian sports are  
5 examples.

6 Q. Okay.

7 You are not offering any opinion, are you, that  
8 the reason for separation of sports by sex is to affirm  
9 sex specific social roles or identities?

10 A. I'm not aware of that. I'm not an expert on  
11 those pieces, but I'm not aware personally.

12 Q. And it is not your opinion, is it, that  
13 separation of sport by sex is in general unfair?

14 ATTORNEY BLOCK: Objection to form.

15 THE WITNESS: So again, as an expert I'm  
16 not commenting on fairness.

17 ATTORNEY BROOKS: I'm going to mark as  
18 Safer Exhibit 5, a Decision in the arbitral award  
19 delivered in the Court of Arbitration for Sport in  
20 connection with the arbitration between Athletic South  
21 Africa and the IAAF, a bulky document, unfortunately.

22 ---

23 (Whereupon, Exhibit 5, Court of Arbitration  
24 for Sport Decision, was marked for

1 identification.)

2 ---

3 BY ATTORNEY BROOKS:

4 Q. And Doctor Safer, now that you have --- I asked  
5 you earlier about whether you had seen the arbitration  
6 decision and I think you said you might have read  
7 excerpts of it. Looking at it today, do you believe  
8 that you have ever seen a copy of the whole Decision?

9 A. I do not think I've read through the whole  
10 Decision.

11 Q. Do you think you've ever held this whole  
12 document in your hand before?

13 A. This is the first time that I held the whole  
14 document.

15 Q. I'm going to ask you about a few quotations in  
16 it, not to ask your opinions about the judgment but to  
17 elicit your opinions about the science. So if you would  
18 turn --- and the structure of the document is that  
19 everything in it has a paragraph number which, thank  
20 goodness, makes it easy to find things. So if you would  
21 turn to paragraph 556. The first sentence of  
22 paragraph 556 of this Decision reads there is no dispute  
23 that ensuring fair competition in the female category of  
24 elite competitive athletics is a legitimate objective

1 for the IAAF to pursue, closed quote. As a member of  
2 the IAAF Committee that established the policy that was  
3 challenged in this arbitration, do you agree or disagree  
4 that there is no dispute that ensuring fair competition  
5 in the female category is a legitimate objective for the  
6 IAAF to pursue?

7 ATTORNEY BLOCK: Objection to form.

8 THE WITNESS: As an expert I do not have  
9 an opinion.

10 BY ATTORNEY BROOKS:

11 Q. Okay.

12 Let me ask you to turn to paragraph 456. And  
13 this arbitration, as you noted, deals with the case of  
14 Caster Semenya and therefore with track events, not with  
15 riflery or with equestrian events. So I will ask your  
16 reaction to that context. In the middle of  
17 paragraph 456, beginning halfway through the sixth line  
18 the panel wrote, quote, suffice to say that post puberty  
19 generally speaking males outperform female athletes ---  
20 I'm sorry, male athletes outperform female athletes at  
21 an elite level. This difference is insurmountable,  
22 closed quote.

23 Do you see that?

24 A. I do.

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1 **Q. And do you believe it to be true, false or**  
 2 **outside of your expertise that male athletes outperform**  
 3 **female athletes at the elite level at a difference that**  
 4 **is insurmountable?**

5 ATTORNEY BLOCK: Objection to form.

6 THE WITNESS: As a blanket statement, no,  
 7 I would say that is not my expertise.

8 BY ATTORNEY BROOKS:

9 **Q. Let me ask you to turn to 576. I said 576. I**  
 10 **meant 577. I apologize. At the end of 577 the panel**  
 11 **has written, quote, ---.**

12 ATTORNEY BROOKS: We just had static  
 13 here, so let me ask whether people outside the  
 14 conference room are hearing us? If somebody could  
 15 unmute.

16 ATTORNEY TRYON: I can hear you.

17 ATTORNEY BROOKS: We just had some static  
 18 that caused me concern.

19 BY ATTORNEY BROOKS:

20 **Q. At the end of paragraph 577 the panel wrote,**  
 21 **quote, male athletes do not have to be elite to surpass**  
 22 **even the very best female athletes. Dr. Berman pointed**  
 23 **out that in a race such as the 800 meter, a 1.6 percent**  
 24 **advantage, as calculated in BG17, was sufficient to**

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1 ATTORNEY BLOCK: Objection to form.

2 THE WITNESS: So it depends on the event.

3 BY ATTORNEY BROOKS:

4 **Q. Why does it depend on the event?**

5 A. Well, there are events where we see --- as an  
 6 elite Olympic event where the runners are virtually  
 7 tied. And 1.6 percent then will be significant in the  
 8 moment because that will be described in that field.  
 9 And yet there are other events where people are far more  
 10 spread out and there's greater --- in every element,  
 11 then 1.6 percent advantage becomes lost in that noise.

12 **Q. And --- well, let's take competitive high school**  
 13 **athletics, competitive high school track. Do you have**  
 14 **an opinion as to 1.6 percent advantage in that context**  
 15 **is significant or insignificant?**

16 A. I do not have an opinion.

17 **Q. So if I understand correctly, your point in some**  
 18 **context you know that 1.6 percent is significant but**  
 19 **that in other context you don't know one way or the**  
 20 **other?**

21 ATTORNEY BLOCK: Objection to the form.

22 THE WITNESS: Yes, I guess I would say  
 23 that in some context I can see that 1.6 percent is  
 24 significant and then in other context I can see that 1.6

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1 **determine first place by the region of nine meters,**  
 2 **closed quote.**

3 **Do you see that language?**

4 A. Yes.

5 **Q. And do you consider it to be true, false or**  
 6 **outside of your expertise that male athletes do not even**  
 7 **have to be elite to surpass the very best female**  
 8 **athletes?**

9 ATTORNEY BLOCK: Objection to form.

10 THE WITNESS: In a --- as a blanket  
 11 statement it is outside my expertise.

12 BY ATTORNEY BROOKS:

13 **Q. And do you have an opinion as to whether a**  
 14 **1.6 percent advantage is a significant advantage or**  
 15 **insignificant advantage?**

16 A. I think that's too complicated as phrased for me  
 17 to answer.

18 **Q. That's actually one of the simpler questions**  
 19 **that I've asked today. Let me ask it again and ask you**  
 20 **to think. Do you have an opinion, and if you --- one**  
 21 **answer of course is I don't have an opinion or it is**  
 22 **outside of my expertise, but do you have an opinion as**  
 23 **to whether a 1.6 percent advantage in a track event is a**  
 24 **significant advantage?**

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1 percent does not appear to be significant. And actually  
 2 even if you're asking as an expert, what even is  
 3 significant is outside my purview, but with that  
 4 understood I can still see that someone would say it one  
 5 way and not say it the other way.

6 BY ATTORNEY BROOKS:

7 **Q. Let me ask you to turn to paragraph 357. And**  
 8 **first I will ask you to turn to page 88, paragraph 351,**  
 9 **just so you can see we're in a section summarizing the**  
 10 **testimony of Professor David Handelsman. That begins at**  
 11 **paragraph 351. And then I'm going to call your**  
 12 **attention to paragraph 357 and it puts you to the**  
 13 **statement there.**

14 357 includes a number of bullet points. The  
 15 third bullet point, which is on page 91, reads --- and  
 16 again this is --- the paragraph begins, quote, Professor  
 17 Handelsman went on to explain in greater detail why the  
 18 sex difference in circulating testosterone is the cause  
 19 of the difference in athletic performance between men  
 20 and women, and then there are bullet points. The third  
 21 bullet point reads, on average, women have 50 to  
 22 60 percent of men's upper arm muscle cross-sectional  
 23 area, 65 to 70 percent of men's thigh muscle  
 24 cross-sectional area, 50 to 60 percent of men's limb

1 **strength and 60 to 80 of men's leg strength. Do you see**  
2 **that language?**

3 ATTORNEY BLOCK: Objection to form.

4 THE WITNESS: I do.

5 BY ATTORNEY BROOKS:

6 **Q. Do you have any knowledge as to whether those**  
7 **statistics are on correct as given by Dr. Handelsman?**

8 A. I do not.

9 **Q. And do you have any expert knowledge as to how**  
10 **those statistics do or do not change under the influence**  
11 **of testosterone suppression in natal males who**  
12 **experience a female gender identity?**

13 ATTORNEY BLOCK: Objection to  
14 terminology.

15 THE WITNESS: So I guess the --- I have  
16 no expert knowledge about these numbers, per se, but I  
17 do know as an expert that when testosterone levels are  
18 suppressed in transgender women and actually in  
19 cisgender men, anyone, that these numbers are decreased.  
20 And I can say that with confidence as an expert.

21 BY ATTORNEY BROOKS:

22 **Q. But you're not able to quantify that decrease.**

23 **Is that correct?**

24 A. I cannot quantify that decrease. The data gets

1 international federations with their rule making.

2 **Q. And do you consider Professor Coleman to be**  
3 **knowledgeable about the relative athletic capabilities**  
4 **and records of male and female athletes?**

5 A. To me that's too vague a question. She's a  
6 lawyer.

7 **Q. Are you aware also of her athletic background as**  
8 **a competitive athlete?**

9 A. I am.

10 **Q. And are you aware of her research and**  
11 **publications having to do with athletic records and**  
12 **capabilities of male and female athletes?**

13 ATTORNEY BLOCK: Objection to form.

14 THE WITNESS: I'm aware of some of her  
15 publications where she has co-authored, but she's not  
16 usually the physiology expert in the group.

17 BY ATTORNEY BROOKS:

18 **Q. Let me ask you to turn to paragraph 393. And if**  
19 **you look at the page you will see that this is within**  
20 **the tribunal summary of testimony of Professor Coleman.**  
21 **Let me ask you since you dealt personally with the**  
22 **professor, because I want the record to be respectful,**  
23 **does she in general use --- prefer to be referred to as**  
24 **Professor Lambelet-Coleman or simply Professor Coleman?**

1 murky when we start to get there.

2 **Q. Have you ever met Professor Coleman at Duke**  
3 **University?**

4 A. Doriane Coleman?

5 **Q. Yes.**

6 A. I have.

7 **Q. And in what context have you interacted with**  
8 **Professor Coleman?**

9 A. The --- a professional context.

10 **Q. Can you describe the context?**

11 A. We have served on some of these --- two of the  
12 same committees --- committee task force, whatever you  
13 call it, for World Athletics together.

14 **Q. Was she, in fact, on the committee which you**  
15 **participated that set the five nanomolar standard for**  
16 **the IAAF?**

17 A. I don't recall for sure but I think not.

18 **Q. Then can you identify for me the two committees**  
19 **that you recall that you did sit on with Professor**  
20 **Coleman?**

21 A. Subsequent to the initial group, and I don't  
22 know that it's two committees, it may be the same  
23 committee, they get renamed. Things like that happen.  
24 So it is --- I'm thinking forward to assisting other

1 A. I don't know the answer.

2 **Q. Okay.**

3 A. I prefer to her on a first name basis.

4 **Q. All right.**

5 **I will stick with the shorter version. In**  
6 **paragraph 393 the panel describing Professor Coleman's**  
7 **submission states, quote, Professor Lambelet-Coleman's**  
8 **report compared the lifetime best performance of three**  
9 **elite female athletes in the 400-meter event with the**  
10 **performance of male athletes in the same event during a**  
11 **single year, 2017, period. This showed not only that**  
12 **the elite females would have lost to the best men by a**  
13 **margin of about 12 percent but also that even at their**  
14 **absolute best the elite females would have lost to**  
15 **thousands of other boys and men by a much smaller**  
16 **margin, closed quote. Do you see that language?**

17 A. I do.

18 **Q. And do you have any reason to doubt the accuracy**  
19 **of that summary of athletic performance statistics?**

20 A. I can't render an expert opinion there.

21 **Q. Do you as you sit here today have any reason to**  
22 **doubt the accuracy of those statistics?**

23 A. Again, I cannot comment as an expert. I guess  
24 that's the bottom line.

**Q. If it is true that the most elite female athletes performing at their absolute best would lose to thousands of others boys and men. It is also true, would you not agree, that the very best female college athletes would lose to even a larger number of collegiate boys and men?**

A. If I'm speaking as an expert, then I'm not rendering an opinion there.

**Q. How about as a highly educated and intelligent professor?**

A. Simply in that context, it would be true that --- that it would least be true at some level in the elite levels of college.

**Q. And the very best female high school athletes would lose to an even larger number of high school boys.**

**Correct?**

A. So now I can render a little bit of an expert comment, which is that as you move down that line, the degree of difference falls because the degree of testosterone impact on body is evolving across those ages.

**Q. If it's true that the world fastest female athletes would lose to thousands of boys and men then it is inevitably true, is it not, Doctor Safer, to say that**

**Q. And you state in paragraph 48 that, quote, age, grade competitive sports records show minimal or no difference in athletic performance between non-transgender boys and non-transgender girls before puberty, and you cite Handelsman, the article that we have been looking at.**

**Correct?**

A. Yes.

**Q. And what research did you do to arrive at the conclusion that age grade competitive sports records show minimal or no difference in athletic performance between non-transgender boys and non-transgender girls?**

A. Is the question of original research on my part?

**Q. No, what steps did you take to arrive at that conclusion?**

A. Reading relevant literature.

**Q. You cited only Professor Handelsman's 2018 article. Did you read other literature that gave you comfort that is a true statement?**

A. I have read other literature, but I would suggest that Doctor Handelsman gave --- Doctor Handelsman's paper is the best summary of the point.

**Q. And again, in making this statement, what did you consider to be a minimal difference?**

**the very best female high school athletes would lose to even larger numbers of high school boys?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the --- it is the coils here. So it would be larger numbers of cisgender men in general, including people who are older than they are, but I'm not sure where that would be going.

BY ATTORNEY BROOKS:

**Q. Let me take you back to your expert report, Exhibit 1, and take you to paragraph 48. Actually, let me have the Declaration, which is Tab 50.**

ATTORNEY BROOKS: Let me mark as Safer Exhibit 6 a Declaration of Dr. Safer executed in May 10th, 2021.

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(Whereupon, Exhibit 6, 5/10/21 Declaration of Dr. Safer, was marked for identification.)

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BY ATTORNEY BROOKS:

**Q. And I apologize, it's paragraph 50. Dr. Safer, did you, in fact, prepare and execute this Declaration in the time leading up to May 26, 2021?**

A. Yes.

A. When I'm thinking about this as a scientist it is a difference where I'm not sure if it is true or whether it is significant when defining the word minimum.

**Q. You just defined minimal by using the work significant. You force me to ask you what do you mean by significant?**

A. Sorry. So as a scientist --- well, there are two definitions of significant. So the one is that it is relevant for those --- for decision makers. And that actually gets outside of my expertise. And then we do use it as a term of art in science as well.

**Q. You meant statistically significant?**

A. The second would be statistically significant, that's right.

**Q. Dr. Safer, you deleted that sentence from your expert report.**

**Is that correct?**

A. I have to look.

**Q. I don't mean it to be a trick question. Let me ask you this. Do you recall removing that sentence as you revised your Declaration to create your expert report?**

A. No.



1 Q. All right.

2 A. I don't recall.

3 Q. We will just move on to the science and not ask  
4 you deleted the question. Let me take you to paragraph  
5 44 of your expert report, Exhibit 1. And just to be  
6 sure, you are on the expert report now and not the  
7 Declaration? They are so similar that it is easy to get  
8 confused.

9 A. Yes.

10 Q. Paragraph 44 you say in the second sentence,  
11 increased testosterone begins to affect athletic  
12 performance at the beginning of puberty, but those  
13 effects continue to increase each year of puberty until  
14 about 18, with the full impact of puberty resulting from  
15 the cumulative effect of each year. Do you see that  
16 language?

17 A. I do.

18 Q. And just to clarify, in making this statement  
19 what do you refer to as, quote, the beginning of  
20 puberty? And we're talking about male typical puberty  
21 in this discussion so as to clarify. So what do you  
22 have in mind as the beginning of male puberty?

23 A. So the answer is complex. The typical male  
24 puberty is defined as beginning with what we label as

1 BY ATTORNEY BROOKS:

2 Q. Cause has to precede effect?

3 A. Cause in this case has to precede effect,  
4 exactly. But I caution that it is not clear that that's  
5 something that we could parse out medically in a given  
6 person in a reasonable way. That is I don't know that I  
7 could do a blood test and catch it as it were.

8 Q. Okay.

9 Can you explain to me what you were referring  
10 to when you mentioned the cumulative effect of pubertal  
11 changes at the end of that sentence?

12 A. Where are we now?

13 Q. We are in the second sentence of paragraph 44 of  
14 Exhibit-1. And you say at the end with a full impact of  
15 puberty resulting from the cumulative effect of each  
16 year, and if you would explain for the Court what you  
17 meant by cumulative effect that would be helpful.

18 ATTORNEY BLOCK: Objection to form.

19 THE WITNESS: So the testosterone has  
20 impact on certain tissues, and then it continues to have  
21 impact on tissues. And I don't know that I have any  
22 greater explanation for the right cumulative impact.

23 BY ATTORNEY BROOKS:

24 Q. So your point is that by the age of 18 whatever

1 Tanner 2. And in terms of when you would see impact on  
2 athletic performance, per se, is not well established.

3 Q. And now stretching that in both directions, on  
4 the one hand Tanner Stage 2, if I'm correct, is  
5 essentially defined as certain first observable physical  
6 changes in a boy's body.

7 Right?

8 A. Tanner 2 is specifically defined as specific  
9 observable changes in a person's body, yes.

10 Q. And therefore, testosterone levels have begun to  
11 increase even before the first observable changes that  
12 result.

13 Correct?

14 A. The way it's understood in medicine is it is  
15 reflective of existing reality. So it is not  
16 necessarily --- you know, only in the absolute.

17 Q. Well, as a medical doctor, you would agree with  
18 me or would you not that testosterone levels must  
19 increase in the body before observable changes in the  
20 body caused by testosterone can be --- can come about?

21 ATTORNEY BLOCK: Objection to the form.

22 THE WITNESS: So it must be the case that  
23 the testosterone levels would have to rise prior to  
24 their having a noticeable effect, that is true.

1 advantages in athletic performance a particular male has  
2 is due to body changes that have happened each year  
3 since puberty began, not due simply to the testosterone  
4 level of that individual at age 18?

5 ATTORNEY BLOCK: Objection to form.

6 THE WITNESS: The meaning isn't as --- I  
7 guess I would be careful about overstating it, so there  
8 can --- there might be some impact earlier and then  
9 there might be additional impact over time, but --- and  
10 so in the absolute it would be true to say that all of  
11 the effect doesn't occur at Tanner 5, which is the  
12 defined end.

13 BY ATTORNEY BROOKS:

14 Q. Okay.

15 The cumulative physiological changes that you  
16 are referring to here result from a multi-year history  
17 of male typical levels of testosterone by age 18.

18 Correct?

19 A. Yes. Well, even that is --- there's complexity  
20 but yes.

21 Q. You say --- sorry, we are jumping back and  
22 forth.

23 A. Actually, just continuing a little bit further,  
24 it's also about age 18 is not a trivial word.

1 **Q. Understood. And I simply used that as a**  
 2 **representative end marker and for some individuals it**  
 3 **would be earlier and for some individuals it would be**  
 4 **later.**

5 **Correct?**

6 A. That's right, even with the college athletes.

7 **Q. You state at the beginning of paragraph 44 that,**  
 8 **quote, the concerns that animated the World Athletics**  
 9 **and prior IOC policies are even more attenuated for**  
 10 **students in the middle of high school where athletes**  
 11 **typically range from 11 to 18.**

12 **Do you see that?**

13 A. I do. Was this paragraph 44?

14 **Q. It is. And by attenuated you mean the same in**  
 15 **nature but smaller in scale.**

16 **Correct?**

17 ATTORNEY BLOCK: Objection to form.

18 THE WITNESS: Yeah, I can't even say that  
 19 so --- yeah, I can't ---.

20 BY ATTORNEY BROOKS:

21 **Q. Isn't that what attenuated means?**

22 ATTORNEY BLOCK: Objection to form.

23 THE WITNESS: Attenuated is both in scale  
 24 and type in this case.

1 **Q. In paragraph 49 of your expert report you write**  
 2 **in the third full sentence, quote, West Virginia**  
 3 **categorically prevents girls who are transgender from**  
 4 **participating on girls teams regardless of whether they**  
 5 **are prepubertal, receiving puberty blockers, or**  
 6 **receiving gender-affirming hormone therapy, closed**  
 7 **quoted. Do you see that?**

8 A. I do.

9 **Q. What in your opinion is the significance of that**  
 10 **statement? What is your point?**

11 ATTORNEY BLOCK: Objection. Could you  
 12 just give him some time to read the context?

13 BY ATTORNEY BROOKS:

14 **Q. Yes.**

15 A. So I guess I maybe make the --- help me with  
 16 where you're going with that question. I'm --- the rule  
 17 as written includes all transgender girls.

18 **Q. Are you --- did you mean to suggest that medical**  
 19 **science would dictate that the West Virginia law should**  
 20 **make an exception for natal males who have**  
 21 **suppressed puberty?**

22 ATTORNEY BLOCK: Object to form.

23 THE WITNESS: The context for the --- the  
 24 context of different transgender girls with different

1 BY ATTORNEY BROOKS:

2 **Q. All right.**

3 **You are not here or anywhere denying that the**  
 4 **same type of concern, that is physiological advantages,**  
 5 **exist at for instance age 15?**

6 ATTORNEY BLOCK: Objection to form.

7 THE WITNESS: So sorry, say that again.

8 BY ATTORNEY BROOKS:

9 **Q. You are not in this paragraph or anywhere**  
 10 **offering an opinion that the same type of concerns, that**  
 11 **is physiologic or in performance advantages, exist to**  
 12 **some degree at, for instance, age 15?**

13 ATTORNEY BLOCK: Objection to form.

14 THE WITNESS: I'm not offering an opinion  
 15 there, that's right.

16 BY ATTORNEY BROOKS:

17 **Q. And the same is true at age 13?**

18 ATTORNEY BLOCK: Objection to form.

19 THE WITNESS: I'm not --- so I guess as  
 20 we --- as you move along to the continuum, then ---.

21 BY ATTORNEY BROOKS:

22 **Q. It gets more attenuated?**

23 A. The opinion --- right, the opinion shifts  
 24 because it depends on context.

1 degrees of treatment and different stages of puberty are  
 2 different. I guess that's as much I would say. I'm not  
 3 expressing an opinion about what the --- I'm serving  
 4 here just as a scientist in terms of what the --- what  
 5 the --- what we know about athleticism.

6 BY ATTORNEY BROOKS:

7 **Q. You are not offering an opinion that either**  
 8 **science or reasonableness requires that West Virginia's**  
 9 **laws make an exception for natal males who have**  
 10 **suppressed puberty?**

11 ATTORNEY BLOCK: Objection to form.

12 THE WITNESS: I'm not offering an opinion  
 13 that that would be --- that would be a logical law for  
 14 transgender girls in that circumstance.

15 BY ATTORNEY BROOKS:

16 **Q. And in the article that we began today looking**  
 17 **at you expressed concern about policies that would**  
 18 **create incentives for children to begin puberty**  
 19 **blockers, would you not?**

20 ATTORNEY BLOCK: Objection to form.

21 THE WITNESS: So earlier in my --- I  
 22 reference that as a concern. I want to be clear that as  
 23 an expert I'm not suggesting that --- I'm not suggesting  
 24 an expert opinion that these needs to be concerns. I'm



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1 raising the issues that we are considering.

2 BY ATTORNEY BROOKS:

3 **Q. Well, what you wrote to educate your colleagues**  
 4 **as an endocrinologist, you, Professor Safer, raise that**  
 5 **as a concern?**

6 ATTORNEY BLOCK: Objection to form.

7 THE WITNESS: To be clear, I raised it as  
 8 a concern of the community. I did not take an opinion  
 9 in that article that it was a concern that I was  
 10 offering as an expert.

11 BY ATTORNEY BROOKS:

12 **Q. Well, let me ask you as a medical doctor sitting**  
 13 **here today, an endocrinologist, it would cause you**  
 14 **concern, would it not, that policies are adopted that**  
 15 **created incentives for children to start puberty**  
 16 **blockers when they might otherwise not choose to do so?**

17 ATTORNEY BLOCK: Objection to form and to  
 18 scope.

19 THE WITNESS: It's too broad of a  
 20 question as you're asking it because there is certainly  
 21 --- in medicine it is certainly the case that we fear  
 22 coercing people to certain treatments and certain  
 23 circumstances but they are certainly alternate examples  
 24 where we very much coerce people to have certain medical

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1 terminology?

2 THE WITNESS: And if I said the word best  
 3 maybe that's not the best way of saying it, but it's a  
 4 very clean, well-written summary of the circumstance.

5 BY ATTORNEY BROOKS:

6 **Q. At any rate, it's the one that you chose to**  
 7 **cite?**

8 A. And it is the one that I chose to cite.

9 **Q. I'm going to give you a three by five card to**  
 10 **help read a chart that doesn't have grid lines on it so**  
 11 **you have a straight edge. And I want to take you in**  
 12 **Handelsman's 2018 article, Exhibit 4, to page 813 and**  
 13 **figure one. And you've familiar with this figure and**  
 14 **these curves, are you not?**

15 A. I am, yes.

16 **Q. When you studied this article carefully this is**  
 17 **part of what you studied.**

18 **Right?**

19 A. It is.

20 **Q. And these charts show percentage performance**  
 21 **advantage of males over females and just to simplify**  
 22 **terminology I believe there's nothing in here about**  
 23 **dealing with transgender individuals in these charts.**  
 24 **So with your permission I'll simply use male and female**

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1 interventions. And so as an expert I have no opinion,  
 2 as we said already. And simply as somebody trying to be  
 3 logical and thoughtful I can come up with examples in  
 4 both certain circumstances.

5 BY ATTORNEY BROOKS:

6 **Q. I'm going to ask you to take Exhibit-6 --- no,**  
 7 **Exhibit 4, the Handelsman article if you would.**

8 A. Yes.

9 ATTORNEY TRYON: Roger, would you speak  
 10 up a little more, please? And Josh, when you shuffle  
 11 your papers, it really garbles the testimony. If you'd  
 12 be a little more careful about that, I'd appreciate it.

13 ATTORNEY BLOCK: Sorry.

14 ATTORNEY BROOKS: It's a crowded table  
 15 and we have papers bumping up against the mic. So just  
 16 call out if we do that wrong.

17 BY ATTORNEY BROOKS:

18 **Q. So Dr. Safer, you pointed to the Handelsman**  
 19 **article as the best source on the proposition --- on the**  
 20 **question to what extent if any natal male has**  
 21 **physiological or I should say athletic performance**  
 22 **advantages over natal females before puberty.**

23 **Correct?**

24 ATTORNEY BLOCK: Objection to

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1 **to be the dare I say simple biological designations as**  
 2 **we had previous discussions. Is that acceptable?**

3 A. I think so.

4 **Q. If it's something that comes up ---.**

5 A. I will mention it, yes.

6 **Q. I don't think it will in this discussion. First**  
 7 **of all, would you agree with me that, generally**  
 8 **speaking, junior high contemplates grades 7 through 9**  
 9 **and commonly ages in the range of 12 to 15?**

10 ATTORNEY BLOCK: Objection to form.

11 THE WITNESS: Junior high is grades 7  
 12 through 9. It used to be. Now there is Middle School.  
 13 BY ATTORNEY BROOKS:

14 **Q. I know?**

15 A. Exactly.

16 **Q. Let's just work with you and I are of general**  
 17 **age. So Junior High is 7 to 9?**

18 A. Okay.

19 **Q. And in your general understanding, this is**  
 20 **layman's stuff, not expert stuff, that is ages 12 to**  
 21 **15-ish?**

22 A. Let's see, seven --- let me think about this.  
 23 Right, 15 at about the max, right, because there is  
 24 about 14.

**Q. And high school is 14, 15 through age 18-ish. Some people graduate at age 17?**

A. Yes. As a non-expert I would believe, yes.

**Q. All right.**

**And this chart charts the percentage advantage enjoyed --- on average enjoyed by males over females in three different events at over --- on a year by year basis from ages 10 up to 19.**

**Am I describing it correctly?**

ATTORNEY BLOCK: Objection to form. Just for the record, it's percentage differences, not percentage advantages.

BY ATTORNEY BROOKS:

**Q. Correct, it says --- it says gender difference percentage to read the Y axis.**

A. Clear, yes.

**Q. Okay.**

**So let's look at running and you have your straight edge if it is helpful to you. At age 12, what, according to Dr. Handelsman, is the gender difference in running performance?**

A. So in this paper there is a range. But just to help you get to your point faster I guess we can --- it is about five percent of tab over.

THE WITNESS: So the problem here with going right to this figure is it's including a range of inputs, and so this is --- so these are what are called cross-sectional studies, and so the --- if your question is just in the narrow point of this five percent minimal, well, even there I don't know that I can comment because it depends on how broad the variation is among the group.

BY ATTORNEY BROOKS:

**Q. And what gender difference did Dr. Handelsman report in running at age 15?**

A. At age 15, a range that is hovering about 9 to 10 percent.

**Q. And by age 15, according to his sample, the gender difference is approached --- begins to level off. In other words, it has --- most of the gender difference has been achieved at age 15.**

**Correct?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Among this data in this study set, yes, I will agree with you it does level off.

BY ATTORNEY BROOKS:

**Q. So let me ask you this. Do you have an understanding of the physiological basis of what you**

**Q. And for reasons best known to Professor Handelsman, his arrow bars extend only upwards, correct, in this chart?**

A. Right. I will have to attribute that to cleanliness of the figure.

**Q. Or if he has chosen to fit his curve to the bottom end of this error range possibly?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: Yeah, I can't comment there, but that wouldn't be usual.

BY ATTORNEY BROOKS:

**Q. That would not be usual, I agree. And what advantage --- what gender difference between male and female does Professor Handelsman report at age ten approximately?**

A. At age ten in the particular figure that we are referencing it is --- the average is --- well, actually, so here it ranges from about two percent because that is probably how the air bars are meant to be up to just a little north to three percent.

**Q. And going back to age 12, do you consider a five percent difference between male and female performance to be minimal?**

ATTORNEY BLOCK: Objection to form.

**described as a two to three percent male advantage at age ten in running?**

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY BROOKS:

**Q. If any?**

A. So speaking as an expert, there's no --- there is no physiological --- there is no expectation of a physiological explanation. And there is awareness of other confounders in terms of experience, exposure to sport and things like that.

**Q. Let me ask you to look at jumping, at age ten. And this is --- at age ten what performance of gender difference advantage did Dr. Handelsman report for boys in jumping?**

A. So at age ten it would go on --- so at age ten then the range ---.

**Q. This by the way tells us that he cannot be inclined in arrow bar --- a symmetrical arrow bar below.**

**Correct?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So he can't. In fact, the range that he's showing there goes from an advantage for girls --- that is it goes below to an advantage --- for boys. The range is included and it just --- for both

1 sexes.

2 BY ATTORNEY BROOKS:

3 **Q. So what is the average advantage that he reports**  
4 **at age ten for boys?**

5 A. So in this dataset the average is about a six  
6 percent average for boys, but it is important to  
7 understand the data. And the data that --- the point  
8 being that if we were to repeat the study you would  
9 anticipate that that average would fall across those  
10 entire --- the entire range shown so that in a different  
11 day it might show a bigger advantage for boys, but a  
12 different day it might also show an advantage for girls  
13 about higher.

14 **Q. Are you aware of any dataset that shows a**  
15 **smaller advantage in jumping for girls at age ten?**

16 A. Off the top of my head I cannot guide --- lead  
17 you to a dataset.

18 **Q. At age 12 what advantage in jumping --- well,**  
19 **let me start over. At age 12 what advantage in jumping**  
20 **does Dr. Handelsman report for boys?**

21 A. So in this dataset at age 12 he shows the  
22 advantage --- the average advantage to be of the less  
23 than the average advantage for age ten, but this exactly  
24 points to the caution that I was referencing, which is

1 that the range of possibilities that you might  
2 anticipate based on this particular dataset at age 12  
3 has a range of four to six percent advantage for boys.

4 **Q. The arrow bar has tightened up a lot?**

5 A. The arrow bar in that age range is tighter.

6 **Q. And do you consider a six percent advantage to**  
7 **be minimal?**

8 ATTORNEY BLOCK: Objection to form.

9 THE WITNESS: As an expert I can't answer  
10 that because it depends on context on the heterogeneity  
11 of all these events.

12 BY ATTORNEY BROOKS:

13 **Q. And at age 15 what average advantage in jumping**  
14 **did Dr. Handelsman report for boys?**

15 A. For age 15 he has a range or the average sits at  
16 15 percent and the range runs from about 14 percent to  
17 maybe 17 percent.

18 **Q. Is there any context in your opinion, any**  
19 **athletic endeavor that involves jumping in which a 15**  
20 **percent advantage is in your view minimal?**

21 ATTORNEY BLOCK: Objection to form.

22 THE WITNESS: Yes, I think as an expert I  
23 can't answer that. If you're thinking at the scholastic  
24 level where there is a wide range of --- where there's a

1 quite wide range of heterogeneity in development, body  
2 type, et cetera, I certainly could envision a situation,  
3 yes.

4 BY ATTORNEY BROOKS:

5 **Q. Dr. Safer, in your Declaration filed in May you**  
6 **stated that before puberty athletic advantage by boys**  
7 **was minimal. Do you recall that language?**

8 A. The way I would say it is the difference between  
9 boys and girls before puberty is minimal or  
10 non-existent. I don't know if I could be wiser than  
11 that.

12 **Q. All right. But now you are telling me when I**  
13 **asked you questions about minimal that you as an expert**  
14 **are not able to define minimal. How do you reconcile**  
15 **those two?**

16 ATTORNEY BLOCK: Objection to form.

17 THE WITNESS: So the definition of  
18 minimal is in context. And so as we discussed it was  
19 not a significant difference using both those  
20 definitions that we already used were no different at  
21 all.

22 BY ATTORNEY BROOKS:

23 **Q. Your statement in your Declaration simply**  
24 **asserted categorically in almost no context that the**

1 **difference in athletic capability of boys to girls were**  
2 **both minimal. My question for you is using whatever**  
3 **definition you had in mind when you wrote that do you**  
4 **consider a --- I will look at jumping, a five percent**  
5 **difference in capability to be minimum?**

6 ATTORNEY BLOCK: Objection to form and  
7 characterization of the report.

8 THE WITNESS: So it's a context. So in  
9 the report the reference is to prepubertal children.  
10 And there it is easier to be more categorical. Where  
11 now we're moving into an area where there is --- where  
12 things are more complex and so it is a harder context to  
13 make that statement.

14 BY ATTORNEY BROOKS:

15 **Q. That is a sample of ten-year old boys includes**  
16 **some who are no longer prepubertal.**

17 **Correct?**

18 A. No. I'm saying it more the other way, which is  
19 a sample of ten-year-old boys would overwhelmingly be  
20 prepubertal but a sample of 15-year-old boys would have  
21 more of a range and have more heterogeneity. And  
22 there's more to it even than that, which is the  
23 definition of minimal also includes the context of the  
24 entire population who participated in the sport.

**Q. So focusing on ten-year-old boys and jumping you said at age ten the large majority of boys are, according to your definition, prepubertal. Referring back to Declaration and the meaning that you ascribed to the word minimal there, in your view, is a six-percent difference in capability minimal or not minimal?**

ATTORNEY BLOCK: Objection to form and to talking about his Declaration without it being in front of him.

ATTORNEY BROOKS: He has it in front of him and we already looked at the language.

BY ATTORNEY BROOKS:

**Q. You may answer.**

A. So the graph that we are looking at includes arrow bars that include the possibility that boys would have --- that the girls would have a superior outcome, and so the answer then becomes, yes. Where the data are either small or are suspect or not significant, then all of that collectively certainly is --- would be included as minimal to non-existent.

ATTORNEY BROOKS: Let me mark as Exhibit Safer 7 a paper by Emma Colton and Tommy Lundsburg entitled Transgender Women in a Female Category of Sport, from 2021, previously marked as Exhibit 13 at Dr.

**original research or as more of a literature review paper?**

A. I don't recall them reporting on their original research, but I would have to look. It's mostly a review paper.

**Q. That is also my impression. I just didn't want to create a different impression. Let me ask you to turn to page 201, and there in the first column beginning six lines down there is a sentence that begins an extensive review. Let me ask you to find that.**

A. I have it.

**Q. And that --- I'll read it into the record. Quote, an extensive review of fitness data from over 85,000 Australian children age 9 to 17 years old showed that compared with nine-year-old females, nine-year-old males were faster over short sprints, 9.8 percent, and one mile, 16.6 percent, could jump 9.5 percent farther from a standing start, which tested explosive power, could complete 33 more push-ups in 30 seconds and have 13.8 percent stronger grip. Male advantage of a similar magnitude was detected in a group study of children where compared to a six-year old females six-year old males competed 16.6 percent more shuttle runs in a given time and could jump 9.7 percent further from a standing**

Adkins's deposition.

---

(Whereupon, Exhibit 7, Transgender Women In a Female Category of Sport, was marked for identification.)

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BY ATTORNEY BROOKS:

**Q. And first, Professor Safer, let me ask whether you're familiar with this paper published last year?**

A. I am familiar.

**Q. And have you interacted professionally with either Dr. Colton or --- and I don't know his degree, Mr. Lundsburg in any context?**

A. Here I don't remember.

**Q. Okay.**

**Do you believe that you became aware of this paper soon after it was published?**

A. I don't know if I can answer that cleanly either, but I certainly have become aware of it somewhere between then and now.

**Q. And have you read it with some care?**

A. I have read it with some care, yes.

**Q. Let me ask you --- well, let me ask you this first. Would you describe this paper as reporting**

**position. Do you see that language?**

A. I do.

**Q. And on the Australian study, if you follow the footnote you will see that it references a study by Kaitlin Thompson. That's footnote 22. And my first question is have you read the reference study by Kaitlin Thompson?**

A. I don't recall. I'm guessing yes.

**Q. All right. All right.**

**Do you have any reason to doubt the accuracy of this summary of the findings of Kaitlin Thompson based on data from over 85,000 Australian children?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I think the important thing to recognize when you look at these sorts of data are recognizing the multiple inputs. So the larger these groups --- these cross-sectional studies get the more confounded they get by access and other social explanations why there are boys participating in sports to a greater degree.

BY ATTORNEY BROOKS:

**Q. So putting aside causation, which might be physiological and might be cultural, as you said there could be various causes, do you have any reason to doubt**

1 **the accuracy of the findings of performance advantage**  
 2 **summarized here in the passage that I've just read?**

3 ATTORNEY BLOCK: Objection to form and  
 4 terminology.

5 THE WITNESS: Putting aside causation, I  
 6 have no --- I can't offer an expert opinion I guess if  
 7 that's the bottom line. But if you're asking me just as  
 8 an individual, I'm not expecting that they're  
 9 fabricating that data. I am not expecting that.

10 BY ATTORNEY BROOKS:

11 **Q. And you agree that advantages on a scale of 9**  
 12 **percent, 16 percent could provide a significant**  
 13 **advantage in athletic competition, do you not?**

14 ATTORNEY BLOCK: Objection to  
 15 terminology.

16 THE WITNESS: So say that question again.

17 BY ATTORNEY BROOKS:

18 **Q. You agree that advantages on the scale of**  
 19 **9.8 percent or 16.6 percent would provide a large**  
 20 **advantage in athletic competition, do you not?**

21 ATTORNEY BLOCK: Same objection to  
 22 terminology.

23 THE WITNESS: In elite athletic  
 24 competition, yes.

1 **important. So if you need a break, we'll take a break.**

2 A. So I'm good.

3 ATTORNEY BROOKS: Well, obviously, if  
 4 anybody wants a break, we can take a break.

5 ATTORNEY BLOCK: Do you need a break?

6 ATTORNEY SWAMINATHAN: No.

7 ATTORNEY BLOCK: We are good.

8 THE WITNESS: So my rebuttal.

9 BY ATTORNEY BROOKS:

10 **Q. Your rebuttal, which is Exhibit 2, so it's**  
 11 **probably at the bottom. And in that I'm going to draw**  
 12 **your attention to paragraph 11. And there you wrote**  
 13 **there is also no basis to confidently predict the**  
 14 **patterns about the athletic performance of prepubertal**  
 15 **cisgender boys will be the same for prepubertal**  
 16 **transgender girls, closed quote. Do you see that?**

17 A. I do.

18 **Q. And let me attempt to see if I understand the**  
 19 **point of this paragraph. And indeed, if you would like**  
 20 **to read the whole paragraph you should. But my**  
 21 **understanding of the point is that you're saying that**  
 22 **even if prepubertal boys have some performance, some**  
 23 **statistically significant performance advantage over**  
 24 **prepubertal girls, that you are not confident that the**

1 BY ATTORNEY BROOKS:

2 **Q. Did you play any sport in high school?**

3 A. At a sophisticated level I did not.

4 **Q. Your general knowledge permits you to say, does**  
 5 **it not, that at the high school level also a 9.8 percent**  
 6 **or a 16.6 percent advantage is a very large advantage?**

7 ATTORNEY BLOCK: Objection to form and  
 8 terminology?

9 THE WITNESS: So there it gets more  
 10 diffuse, therefore, and I can't answer as an expert.

11 BY ATTORNEY BROOKS:

12 **Q. Can you answer as an informed adult citizen?**

13 ATTORNEY BLOCK: Same objection.

14 THE WITNESS: So as an expert for sure  
 15 not. As an informed adult, it falls back to the same  
 16 situation. When there is a wide range of athletes in a  
 17 certain context, then it is going to seem less relevant.  
 18 And obviously with the example I gave before with an  
 19 elite circumstance where that --- it describes the  
 20 entire field is more significant.

21 BY ATTORNEY BROOKS:

22 **Q. Let me ask you to find your rebuttal report.**

23 A. And actually --- do others need a break?

24 **Q. Any time --- your concentration is most**

1 **athletic performance capabilities of natal males who**  
 2 **identify as females before puberty will be the same as**  
 3 **those of natal males who identified as male before**  
 4 **puberty?**

5 ATTORNEY BLOCK: Objection to the  
 6 terminology.

7 THE WITNESS: So to the extent --- so  
 8 were differences to be determined between cisgender boys  
 9 and cisgender girls, it is correct to say that that  
 10 won't conclusively demonstrate that the same applies for  
 11 transgender girls. That's right.

12 BY ATTORNEY BROOKS:

13 **Q. Now, elsewhere in your writings you have said**  
 14 **that it is well known that the majority of prepubertal**  
 15 **children who experience gender dysphoria do not persist**  
 16 **in that dysphoria into pubertal adolescence.**

17 **Correct?**

18 ATTORNEY BLOCK: Objection.

19 THE WITNESS: No.

20 BY ATTORNEY BROOKS:

21 **Q. Not correct?**

22 A. Not correct.

23 **Q. Then we will come back to that. In this**  
 24 **paragraph 11, you speculate a little farther down that,**



1 **quote, the experience of transgender girls might be more**  
 2 **similar to the experience of cisgender girls?**

3 ATTORNEY BLOCK: Objection to the  
 4 characterization and speculative.

5 BY ATTORNEY BROOKS:

6 **Q. Well, by using the word might you meant to**  
 7 **indicate, did you not, Dr. Safer, this is a hypothesis,**  
 8 **this is not a documented fact?**

9 A. That if the question is do I know that the  
 10 experience of transgender girls is definitely in this  
 11 circumstance the same as cisgender girls, that's right,  
 12 I don't know that. It only might be true.

13 **Q. And towards the end, in the last line, you refer**  
 14 **to potential biological underpinnings of gender**  
 15 **identity. Again, the word potential signaling that no**  
 16 **such specific underpinnings have yet been identified.**

17 **Correct?**

18 A. Say that question again.

19 **Q. In the last line, your reference to, quote,**  
 20 **potential biological underpinnings of gender identify,**  
 21 **by the word potential you are indicating that no**  
 22 **specific biological underpinning has yet been**  
 23 **identified.**

24 **Correct?**

1 ATTORNEY BLOCK: Objection to form.

2 THE WITNESS: So it's --- so no,  
 3 potential in this context does reference that most of  
 4 this biology is unknown, so that part is true, but it  
 5 doesn't mean that there is nothing known.

6 BY ATTORNEY BROOKS:

7 **Q. You do not propose to offer any opinion that**  
 8 **natal males --- let me strike that and start again.**

9 **You do not propose to offer any opinion, do**  
 10 **you, that prior to puberty natal males who identify as**  
 11 **female are less athletic capable on average than natal**  
 12 **males who identify as male?**

13 ATTORNEY BLOCK: Objection to form.

14 THE WITNESS: I'm not offering an opinion  
 15 with regard to cisgender --- excuse me --- cisgender  
 16 boys versus transgender girls and their athleticism when  
 17 they are prepubertal. If that's what you are asking,  
 18 then yes, I'm not offering an opinion between those two  
 19 groups. I'm simply raising the possibility that  
 20 something like biology associated with transgender could  
 21 have influence into it.

22 BY ATTORNEY BROOKS:

23 **Q. Let me ask you to turn to paragraph 22 of your**  
 24 **rebuttal report. And there you write Doctor Brown also**

1 **refers to widely publicized anecdotes about isolated**  
 2 **cases of transgender girls and women state championships**  
 3 **in high school sports or NCAA championships in college.**  
 4 **Do you see that?**

5 A. I do.

6 **Q. And you go on to write but transgender athletes**  
 7 **of women have been competing in NCAA and secondary**  
 8 **school athletics for many years at this point, closed**  
 9 **quote. Do you see that language?**

10 A. I do.

11 **Q. Let me ask you to name all instances of male**  
 12 **males known to you who have competed in women's division**  
 13 **varsity athletics in any athletic endeavor for any NCAA**  
 14 **member school?**

15 ATTORNEY BLOCK: Objection to form and  
 16 scope.

17 THE WITNESS: Right, so I certainly can't  
 18 do that usefully off the top of my head, name  
 19 transgender women and all these context in such an  
 20 exhaustive way like that.

21 BY ATTORNEY BROOKS:

22 **Q. Well, I asked you accused Doctor Brown of citing**  
 23 **isolated cases. Do you have any basis to assert that he**  
 24 **has done anything other than cite all cases in which**

1 **natal males have competed in NCAA athletics in the**  
 2 **female category?**

3 A. So the --- if our focus is on the word isolated  
 4 then per se they are all --- these are all isolated  
 5 cases. These aren't systematic analyses of any cohort  
 6 of people.

7 **Q. You are not accusing Doctor Brown of picking and**  
 8 **choosing?**

9 ATTORNEY BLOCK: Objection to form.

10 THE WITNESS: So let me think about that.  
 11 By simply choosing individual cases that are in the  
 12 press then it is by its nature picking and choosing.  
 13 BY ATTORNEY BROOKS:

14 **Q. What do you mean by that?**

15 A. Well, these are simply individual cases that  
 16 have --- that have come to public attention, and so I  
 17 --- so --- and that's the basis of my statement as  
 18 opposed to some exhaustive attempt to identify  
 19 transgender people in a systematic fashion.

20 **Q. As you sit here today, Dr. Safer, are you aware**  
 21 **of a single case not mentioned by Doctor Brown in his**  
 22 **report of a natal male who has competed in NCAA**  
 23 **athletics in the women's category?**

24 ATTORNEY BLOCK: Objection to form.

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1 THE WITNESS: Can I name somebody off the  
2 top of my head? I cannot.

3 BY ATTORNEY BROOKS:

4 **Q. Do you have any concrete --- leaving aside**  
5 **whether you remember a precise name, do you have any**  
6 **factual basis to know that Doctor Brown has omitted any**  
7 **case of a natal male who has competed in the female**  
8 **division of NCAA athletics?**

9 ATTORNEY BLOCK: Objection to form.

10 THE WITNESS: So I guess if the question  
11 is what can I do off the top of my head, then I cannot.

12 BY ATTORNEY BROOKS:

13 **Q. Off the top of your head, you recall the case of**  
14 **June Eastwood, do you not?**

15 A. You have to remind me what that is.

16 **Q. A runner in Montana?**

17 A. I actually would need to be reminded of those  
18 details.

19 **Q. All right. Certainly you recall Lia Thomas**  
20 **because none of us can mis Lia Thomas these days?**

21 A. Lia Thomas is still in the news.

22 **Q. Do you recall the case of CeCe Telfer?**

23 A. Names are not my strength.

24 **Q. All right. No more on that.**

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1 **You say at the end of this paragraph, quote,**  
2 **the occasional championship that has been widely**  
3 **publicized do not come close to constituting the rates**  
4 **one would expect if they, that is transgender athletes,**  
5 **wanted rates that are proportional to their overall**  
6 **percentage of the population, which is approximately one**  
7 **percent. Do you see that language?**

8 A. I do.

9 **Q. Do you have any knowledge as to what --- first**  
10 **of all, let me ask, what is your basis for believing**  
11 **that the current student population in college and high**  
12 **school level is approximately one percent transgender?**

13 A. The statistic for the percentage of the  
14 population who are transgender comes from surveys.

15 **Q. And do you have any knowledge at all as to what**  
16 **percentage of varsity athletes in America today at the**  
17 **NCAA --- among NCAA member schools in the women's**  
18 **division are transgender?**

19 A. If the question is that a survey in that  
20 population, I'm not aware of a survey that's been done.

21 **Q. So you don't know whether the number of**  
22 **victories of championships that have been taken in the**  
23 **women's division by transgender competitors is higher or**  
24 **lower than the percentage of athletes in those divisions**

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1 **who are transgender?**

2 ATTORNEY BLOCK: Objection to form.

3 THE WITNESS: That is correct. I do not  
4 know the percentage that --- what we know is the  
5 percentage of transgender people and then we know the  
6 percentage of identified athletes winning competitions.  
7 And even then we don't know that absolutely. We only  
8 know the ones that are publicized. But, right, in the  
9 in between, we don't have statistics. That's right.

10 ATTORNEY BROOKS: Counsel, I'm going to  
11 suggest --- in my experience, if we break for lunch at  
12 noon, it makes it a little long afternoon. So I would  
13 suggest that we take a short break now and then keep  
14 going until like 12:45 or something. It's seven hours  
15 on the clock and I'm here just to tell you that the  
16 afternoon gets long. So unless you are starving I'd  
17 recommend ---?

18 THE WITNESS: No, I think that's a great  
19 idea.

20 ATTORNEY BROOKS: Take a short break now.

21 THE WITNESS: So you don't know who is on  
22 the phone so give them a break.

23 ATTORNEY BROOKS: Let's go off the  
24 record.

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1 VIDEOGRAPHER: Going off the record. The  
2 current time reads 12:01:00 p.m. Eastern Standard Time.  
3 OFF VIDEOTAPE

4 ---  
5 (WHEREUPON, A SHORT BREAK WAS TAKEN.)

6 ---  
7 ON VIDEOTAPE

8 VIDEOGRAPHER: Back on the record.  
9 Current time reads 12:14 p.m. Eastern Standard Time.

10 ATTORNEY BROOKS: Let me mark as Safer  
11 Exhibit 8 the Endocrine --- Treatment of Gender  
12 Dysphoric Gender Incongruent Persons, an Endocrine  
13 Society Clinical Practice Guidelines from 2017  
14 previously marked as Adkins Exhibit 4.

15 ATTORNEY WILKINSON: Tab 5.

16 ---  
17 (Whereupon, Exhibit 8, Endocrine Society  
18 Guidelines, was marked for identification.)

19 ---  
20 BY ATTORNEY BROOKS:

21 **Q. And Doctor Safer, am I correct you served the**  
22 **committee that created this revised version of the**  
23 **Endocrine Society's Guidelines?**

24 A. Yes.



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1 **Q. And is it reasonable for me to assume therefore**  
2 **that you are familiar with it in some detail?**

3 A. I am familiar with it in some detail.

4 **Q. They also pertain to your practice?**

5 **Am I correct.**

6 A. And they do pertain to my practice, yes.

7 **Q. Let me ask you to turn in Exhibit-5 to Page 3879**  
8 **--- Exhibit 8, 3879. And there I will call your**  
9 **attention to the specific recommendation that's numbered**  
10 **1.4. And it says there we recommend against puberty**  
11 **blocking and gender-affirming hormone treatment in**  
12 **prepubertal children with GD/gender incongruence.**

13 **Do you see that?**

14 A. I do.

15 **Q. And then there is a section headed evidence,**  
16 **right?**

17 A. Yes.

18 **Q. And the first statement in the sentence that is**  
19 **--- in the section headed evidence is, quote, in most**  
20 **children diagnosed with GD/gender incongruence it did**  
21 **not persist into adolescence, closed quote.**

22 **Do you see that?**

23 A. I do.

24 **Q. Do you believe that to be a false statement?**

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1 transgender kids with these sorts of labels.

2 BY ATTORNEY BROOKS:

3 **Q. Well, recommendation 1.4 says we recommend**  
4 **against puberty blocking and a gender hormone treatment**  
5 **in prepubertal children with gender dysphoria or gender**  
6 **incongruence. Do you have an understanding of why these**  
7 **Endocrine Society guidelines of which you're a co-author**  
8 **recommended against puberty blocking in prepubertal**  
9 **children?**

10 A. Yes.

11 **Q. Why?**

12 A. They have no impact.

13 **Q. Can you point me to anywhere in the evidence**  
14 **discussion that suggests that is the reason for this**  
15 **recommendation?**

16 A. I don't know. Let me look.

17 **Q. The evidence discussion is just two paragraphs.**

18 ATTORNEY BLOCK: I just want to object to  
19 the extent you're limiting his review to the evidence  
20 section.

21 BY ATTORNEY BROOKS:

22 **Q. My question pertains to the evidence section.**

23 A. So those two paragraphs are both primarily  
24 referencing 1.3 and not 1.4.

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1 A. I wouldn't --- I guess it depends on context  
2 here too. So as of when this was written, the  
3 literature being referenced had a broader diagnosis for  
4 gender dysphoria and gender incongruence or really  
5 gender dysphoria is the label that was being used and  
6 still is. Gender incongruence is where we are headed.  
7 And so with that broader definition, that included  
8 gender expansive children who were not necessarily  
9 transgender.

10 **Q. The statement is I think fairly specific. And**  
11 **as you are aware, the discussion cites various**  
12 **references, but the introductory sentence states in most**  
13 **children diagnosed with GD a gender dysphoria or gender**  
14 **incongruence did not persist into adolescence. Do you**  
15 **believe to be a true statement or false statement?**

16 ATTORNEY BLOCK: Objection to form.

17 THE WITNESS: The problem is I can't  
18 answer that quite that cleanly. The statement  
19 references a circumstance that I just referenced where  
20 children receiving that label have to --- for the most  
21 part were not transgender. The only caution I want to  
22 make is that as we grow more refined in our  
23 understanding of gender identity and also in our  
24 labeling, that we are more specific in identifying

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1 **Q. Well, let me ask you to turn to page 3881. And**  
2 **at the top of that first column on 3881 it reads we,**  
3 **therefore, advise starting suppression in early puberty**  
4 **to prevent irreversible development of undesirable**  
5 **secondary sex characteristics. However, comma,**  
6 **adolescents with gender dysphoria, slash, gender**  
7 **incongruence should experience the first changes of**  
8 **their endogenous puberty because their emotional**  
9 **reaction to these first physical changes has diagnostic**  
10 **value in establishing the persistence of gender**  
11 **dysphoria/gender incongruence.**

12 **Do you see that language?**

13 A. I do.

14 **Q. And as a scientist and practitioner do you agree**  
15 **with that statement?**

16 A. I would say that the validity of that statement  
17 is in evolution.

18 **Q. In your practice, over time --- well, let me ask**  
19 **you this. When this was drafted did you raise an**  
20 **objection to the proposition that the child's emotional**  
21 **reaction to the first physical changes of puberty had**  
22 **important diagnostic value?**

23 A. I cannot recall our specific conversations, but  
24 if you're asking if my view has shifted since let's say

1 2015, 2016, 2017, no, the recognition that there is an  
2 evolution was already part of my opinion.

3 **Q. What do you mean the recognition that there is  
4 an evolution about?**

5 A. So the evolution is that whether there is a need  
6 to start puberty as a diagnostic --- as a necessary  
7 diagnostic circumstance.

8 **Q. In your practice today do you prescribe puberty  
9 blockers prior to Tanner Stage 2?**

10 A. I --- so two things. My practice is with  
11 adults. And although I will see older kids because I  
12 don't have a hard threshold of age 18, but I don't  
13 prescribe puberty blockers because I don't --- my  
14 practice does not include those age children. But two,  
15 it is still the guidance and so the pediatricians who  
16 are part of my program do not prescribe puberty blockers  
17 prior to Tanner 2 for the reason I stated initially.

18 **Q. And according to these guidelines, by the time  
19 you reach Tanner Stage 2 there have been sufficient  
20 first pubertal --- stages of pubertal development to  
21 give a chance to observe the child's reaction to  
22 pubertal changes for diagnostic purposes.**

23 **Correct?**

24 ATTORNEY BLOCK: Objection to form.

1 **changes of puberty as part of their process of  
2 determining whether transgender hormonal therapies of  
3 any sort are appropriate for that child?**

4 A. Yeah, I can't give you give you an answer. I  
5 would actually have to go survey my psychologists.

6 **Q. Let me direct you to paragraph 17 of your  
7 rebuttal report. And there you say in the second  
8 sentence under current standards of care transgender  
9 adolescents are eligible to receive puberty blockers  
10 when they reach Tanner 2, not Tanner 3, which is early  
11 enough to prevent endogenous puberty from taking place,  
12 closed quote.**

13 **Do you see that?**

14 A. I do.

15 **Q. Now, just for context, you testified previously  
16 that the large majority of minors I'll say who present  
17 with gender incongruence or gender dysphoria are, in  
18 fact, considerably older and have gone through at least  
19 most of the Tanner stages.**

20 **Correct?**

21 ATTORNEY BLOCK: Objection to  
22 characterization.

23 THE WITNESS: Most of the people we are  
24 seeing in clinical practice are coming to us at later

1 THE WITNESS: So the --- so I guess there  
2 are kind of two pieces. The sentence is --- that  
3 sentence is written, but that is the sentence that I'm  
4 suggesting is an opinion that is in evolution, like I'm  
5 saying, to whether that need really exists or not. The  
6 reason why we still don't prescribe puberty blockers  
7 before Tanner 2 is that there is no point, there is no  
8 preventive element to puberty blockers and so there is  
9 no point to give them before puberty begins and there is  
10 no way to know that until there is an observable  
11 objective finding.

12 **Q. Has your own practice ever involved to a  
13 significant extent treating prepubertal or early  
14 pubertal stage children for gender dysphoria or gender  
15 incongruence incongruence?**

16 A. Have I personally cared for prepubertal children  
17 who are transgender or otherwise? Actually, in the  
18 subjects, no.

19 **Q. And do physicians who do treat prepubertal  
20 children report to you in connection with your position  
21 at the clinic or the Mount Sinai Medical Hospital?**

22 A. Yes.

23 **Q. And do you know whether your clinic makes use of  
24 children's emotional reactions to the first physical**

1 stages of development, yes.

2 BY ATTORNEY BROOKS:

3 **Q. And so when we talk about prepubertal children,  
4 we're talking about a small minority of the patients  
5 coming in to ---?**

6 A. I can't define small, but it is the minority,  
7 that's correct.

8 **Q. And do you believe that what your clinic is  
9 seeing in that regard is typical of what's being seen  
10 across the country these days?**

11 A. So if I'm sitting here as an expert, I don't  
12 have an expert survey to point to, to give you an answer  
13 there.

14 **Q. But you read the literature and you talk to  
15 colleagues at other institutions.**

16 **Am I correct?**

17 A. I certainly both read the literature and talk to  
18 colleagues.

19 **Q. And is it your current belief that what you are  
20 seeing in terms of the breakdown of patient population  
21 is similar to or quite different from what other major  
22 gender clinics are experiencing?**

23 A. So kind of separating, I'm living in my expert  
24 role, I really want to point to data where I have any

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confidence at all, and I have none. If you are asking me in a more informal way among our conversations, then I can answer that our experience seems similar to others' experience.

**Q. All right.**

**So in talking about prepubertal children --- well, strike that. We've been through that.**

**In your rebuttal report when you said beginning puberty blockers at Tanner stage 2 is early enough to prevent endogenous puberty from taking place, let me ask you, in consideration, do you believe it is accurate as stated?**

A. So Tanner 2 early enough to prevent endogenous puberty from taking place, yes, that is accurate.

**Q. You would agree with me, would you not, that the endocrine guidelines of which you are a co-author recommend to treat beginning puberty blockers at Tanner Stage 2?**

A. So to clarify, under the cited guidelines what they say the recommendation is do not use puberty blockers prior to puberty beginning, prior to Tanner 2.

**Q. Let me direct you to recommendation 2.2 on page 3880. Recommendation 2.2 reads we suggest the clinicians begin pubertal hormone suppression after**

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**Stage 2 does not categorically prevent endogenous puberty from taking place but instead prevents a substantial portion of endogenous puberty from taking place.**

**Correct?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So let me ---.

BY ATTORNEY BROOKS:

**Q. It is in paragraph 17.**

A. So the --- I guess the way this is understood is --- I guess it depends on how extreme you want to take things. It is back to our original conversation of that cause has to take place before effect. So it's parsing it to that degree.

In a biological context it really is the case that we need some objective evidence before we begin things so that we don't make the mistake of using a medication prior to its having any impact. And then it's also true that some of the hormone mediated changes that we see do actually regress to that prepubertal state when we --- when you use puberty blockers at Tanner 2. So the statement as written --- as I wrote it is accurate in the way we think of these things in biology.

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**girls and boys first exhibit physical changes of puberty.**

**Do you see that?**

A. I do.

**Q. And then it says, paren, Tanner stages G2/B2 which is to say the girls Tanner 2 or boys Tanner 2, correct?**

A. That is what that means, yes.

**Q. So the official recommendation from the Endocrine Society is begin at or after Tanner Stage 2, right?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: That is a correct.

BY ATTORNEY BROOKS:

**Q. And it says that Tanner Stage 2 is defined as girls and boys first exhibiting physical changes of puberty.**

**Correct?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The definition of Tanner 2, is where there is any objective evidence when puberty has begun.

BY ATTORNEY BROOKS:

**Q. So in fact, beginning puberty blockers at Tanner**

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**Q. Although the guidelines specifically state that adolescents should --- before puberty blockers, quote, should experience the first changes of their endogenous, spontaneous puberty. And the recommendation calls for beginning puberty blockers, quote, after girls and boys first exhibit physical changes at puberty, paren, Tanner stages 2, closed paren. I'm not misreading anything, am I?**

ATTORNEY BLOCK: Objection to just reading an excerpt.

THE WITNESS: Right. I don't know --- I don't know if those were all direct quotes or not so I won't comment on whether you're misreading or not, but the first statement that you reference, as I've said, is one where there is an evolving understanding of its veracity or its applicability.

The statement 2.2 is simply using alternate phrasing for saying Tanner 2, that is we need to have objective evidence that puberty is genuinely beginning. The focus and the purpose of these statements is to avoid people using puberty blockers on non-pubertal kids.

BY ATTORNEY BROOKS:

**Q. Well, you would agree with me, would you not,**

1 **that if one administer puberty blockers in accordance**  
 2 **with Endocrine Society guidelines, then some stages of**  
 3 **endogenous male puberty will have occurred in natal male**  
 4 **patients?**

5 ATTORNEY BLOCK: Objection the form.

6 THE WITNESS: So when we are ---  
 7 specifically we're referencing transgender girls here.  
 8 And although pre-pubertis gender boys, when we see  
 9 Tanner 2, then some --- some degree of development has  
 10 taken place. That part is true. So in the absolute  
 11 sense, then yes. But in a biological sense, like I said  
 12 already, the --- some interesting reality is that some  
 13 of that does regress.

14 BY ATTORNEY BROOKS:

15 **Q. By the way, you, yourself, do not have any**  
 16 **knowledge as to what developments of endogenous male**  
 17 **puberty BPJ underwent prior to initiating puberty**  
 18 **blockers, do you?**

19 A. I have had no physical contact with BPJ.

20 **Q. Nor have you studied BPJ's chart sufficiently to**  
 21 **be feel that you know the answer to that question?**

22 A. Right, I'm not expressing any opinion to the  
 23 specific medical terms, that's right.

24 **Q. Have you, yourself, ever supervised any**

1 **research, clinical research, concerning treatment of**  
 2 **prepubertal children for gender dysphoria or gender**  
 3 **incongruence?**

4 A. Have I supervised research on treatment of  
 5 prepubertal transgender girls? Let me think about that.  
 6 Nothing is coming to mind, but our program does do  
 7 research across an age span.

8 **Q. Well, some of your colleagues might have done**  
 9 **such research, but my question is whether you have been**  
 10 **personally supervised or involved in such research?**

11 A. I'm pretty involved actually, especially in our  
 12 research program, but I'm having a difficult time coming  
 13 up with an example.

14 **Q. All right.**

15 **I just want to make sure I know about it if it**  
 16 **exists.**

17 A. Yes.

18 ATTORNEY BROOKS: Let me mark as Safer  
 19 Exhibit 9 an article entitled --- an article or a  
 20 chapter or something entitled Care of the Transgender  
 21 Patient dated 2019 by Dr. Safer and by Doctor Vin  
 22 Tangpricha.

23 ---

24 (Whereupon, Exhibit 9, Care of the

1 Transgender Patient Article, was marked  
 2 for identification.)

3 ---

4 BY ATTORNEY BROOKS:

5 **Q. Am I correct that this is --- well, you tell me,**  
 6 **is this an article or book chapter? How would you**  
 7 **describe this document?**

8 A. This is a review article from the Annals of  
 9 Internal Medicine.

10 **Q. And by review you mean it's not reporting on**  
 11 **original research but rather summarizing the state of**  
 12 **knowledge in a particular area?**

13 A. That is correct.

14 **Q. Okay.**

15 And the pages may have ITC and a number, but  
 16 I'll just refer to the number if I may. On page three,  
 17 column two, is a statement that I think is just  
 18 repeating what you told me, that is most --- quote, most  
 19 transgender persons present to clinicians in late  
 20 adolescence or adulthood, closed quote. That is  
 21 consistent with what you testified earlier.

22 **Correct?**

23 A. That is, yes.

24 **Q. And if you turn then to page five, column two,**

1 **you write in the first full sentence in column two,**  
 2 **prior effects of androgens on the skeleton height and**  
 3 **size and shape of the hands, feet, jaw and pelvis and**  
 4 **voice, including visibly --- visible laryngeal**  
 5 **prominence, will not be altered if treatment is**  
 6 **initiated after puberty.**

7 **Do you see that language?**

8 A. I do.

9 **Q. And is it consistent with your understanding**  
 10 **that at this stage also changes to the size of the heart**  
 11 **and the lungs will not be altered if testosterone is**  
 12 **commenced after the initiation of puberty?**

13 A. Not quite.

14 **Q. Explain that to me, please.**

15 A. So transgender women, if they have gone through  
 16 a typical male puberty, are going to remain larger, but  
 17 the testosterone has action on certain tissues, so  
 18 specifically muscle, and that --- when those  
 19 testosterone levels shrink, then that muscle shrinks and  
 20 the heart muscle is --- well, the heart is a muscle, so  
 21 it will be --- there will be an impact from body size,  
 22 but there will also be impact from the lower level of  
 23 testosterone. So it will be kind of a mix of those two.

24 **Q. The heart is a muscle but it has in it cavities**

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1 of a certain size in which blood flows, out of which  
2 blood is pumped, correct? Do you have any knowledge,  
3 are you aware of any literature that documents that  
4 testosterone suppression reduces the heart's pumping  
5 capacity?

6 ATTORNEY BLOCK: Objection to form.

7 THE WITNESS: So the --- so there is a  
8 gap there of transgender research --- so no, that is  
9 something that's not been studied.

10 BY ATTORNEY BROOKS:

11 **Q. And the lungs are not muscle tissue. Are you**  
12 **aware of any science that indicates or even suggests to**  
13 **you as an expert that an individual who has gone through**  
14 **typical male puberty, that individual's lungs reduce in**  
15 **size if testosterone is suppressed?**

16 A. So the answer with regard to lungs is going to  
17 have some of those same inputs as heart or other tissues  
18 actually where overall size of the individual is not ---  
19 well, certainly height at least is not decreasing, and  
20 so this person is larger. And so lung size matches that  
21 to some degree. And testosterone has some impact on  
22 surrounding muscle. And so to the degree that that  
23 shrinks there might be lung shrinking too. And so you  
24 hear that --- that is going to be a complex answer. And

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1 in terms of interpreting it even, you then would also  
2 have to interpret it in the context of the size of the  
3 body if you want to consider function, and none of this  
4 has been studied.

5 **Q. Certainly you don't believe, do you, that an**  
6 **individual who has been --- let me start that again. It**  
7 **is not your opinion, is it, that testosterone**  
8 **suppression by an individual who has been through a**  
9 **typical male puberty reduces that individuals VO2 mass**  
10 **to typical female levels?**

11 A. So the more we get into some of the subtler  
12 physiology, I will take a step back and give you an  
13 expert opinion, but I will --- in addition to that point  
14 out that we don't even have studies on this. We're just  
15 at a stage of beginning to look at that sort of thing.

16 ATTORNEY BLOCK: Roger, are you able to  
17 speak up a little?

18 ATTORNEY BROOKS: I will try.

19 BY ATTORNEY BROOKS:

20 **Q. You state that in paragraph 55 of your expert**  
21 **report, Exhibit 1?**

22 A. So paragraph 55.

23 **Q. Fifty-five (55). You state that there are,**  
24 **quote, only two studies examining the effect of**

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1 gender-affirming hormone therapy on athletic  
2 performance, closed quote. Do you see that?

3 A. Yes.

4 **Q. You are aware, are you not, that there are a**  
5 **substantially larger number of studies that examine the**  
6 **effect of testosterone suppression on strength or muscle**  
7 **mass in natal males?**

8 ATTORNEY BLOCK: Objection to form.

9 THE WITNESS: There are --- there are a  
10 handful of studies on the impact of testosterone  
11 lowering treatment on transgender women on some tissues,  
12 yes.

13 BY ATTORNEY BROOKS:

14 **Q. Well --- and not to get carried away with the**  
15 **terminology, there are also studies that relate to**  
16 **application of testosterone suppression to males who**  
17 **don't identify as transgender, are there not?**

18 A. To cisgender men in addition to transgender  
19 women there are some studies --- yes, there are actually  
20 some modest studies, yes, on cisgender men.

21 **Q. And have you now taken some care to review**  
22 **yourself all the peer-reviewed studies of that type that**  
23 **were cited in Doctor Brown's report?**

24 A. I have looked at papers that were cited by

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1 Doctor Brown. The moment we use the word all I  
2 hesitate, but certainly I've read through the papers  
3 that were cited.

4 ATTORNEY BROOKS: Well, let's start with  
5 one you referenced, article by Roberts, et al., from  
6 2020, which I will mark as Exhibit --- Safer Exhibit-10.

7 COURT REPORTER: 10.

8 ATTORNEY WILKINSON: 10, Tab 60.

9 ---

10 (Whereupon, Exhibit 10, Roberts, et al,  
11 Articles, was marked for  
12 identification.)

13 BY ATTORNEY BROOKS:

14 **Q. And in fact, this is one of only very few**  
15 **articles that you cite in your expert report start to**  
16 **finish.**

17 **Correct?**

18 ATTORNEY BLOCK: Objection to form.

19 THE WITNESS: So this paper is referenced  
20 to an expert report.

21 BY ATTORNEY BROOKS:

22 **Q. Let me direct you to the last page of your**  
23 **expert report where there is a bibliography. And other**  
24 **than citing to your own writings as the entire basis of**



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1 your opinions you cited only six articles.

2 Correct?

3 ATTORNEY BLOCK: Objection to  
4 characterization about its entire cases for his  
5 opinions.

6 THE WITNESS: So the paper specifically  
7 referenced two reviews and six papers but recognized  
8 that some of these papers specifically are summaries of  
9 the topic.

10 BY ATTORNEY BROOKS:

11 Q. You have studied the Roberts 2020 article with  
12 some care.

13 Is that correct?

14 A. I have indeed, yes.

15 Q. And so far as you know it is the only  
16 longitudinal study of the impact of testosterone  
17 suppression in natal males and actual athletic  
18 performance and in this case running.

19 Correct?

20 ATTORNEY BLOCK: Objection to form.

21 THE WITNESS: So the Roberts study and  
22 the Harper study are both studies of transgender women  
23 with at least two time points.

24 BY ATTORNEY BROOKS:

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1 of testosterone on athletic performance is some of the  
2 strongest data that we have available?

3 ATTORNEY BLOCK: Objection to form.

4 THE WITNESS: It is my opinion that the  
5 Roberts and Harper studies are the only two studies that  
6 we have available.

7 BY ATTORNEY BROOKS:

8 Q. Is it your opinion as an expert, is it not, that  
9 the structure of the Roberts study renders it --- and  
10 the source of its data renders it far more reliable than  
11 the Harper 2015 study?

12 ATTORNEY BLOCK: Objection to form.

13 THE WITNESS: I would not overstate that,  
14 so no. If I'm being --- if I'm being professorial and  
15 saying this is how to organize something, then in that  
16 context I might say that, but in terms of simply  
17 believability of data, I got two modest papers that are  
18 the sum of the world literature on the subject.

19 BY ATTORNEY BROOKS:

20 Q. You say in paragraph 56 of your report that  
21 Roberts found, quote, after two years of  
22 gender-affirming hormone therapy transgender women  
23 completed the 1.5 mile run 12 percent faster on average  
24 than non-transgender women, closed quote. Do you see

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1 Q. The Harper study is strictly retrospective, it  
2 is not a prospective, longitudinal study?

3 A. The Harper study is --- that's a good question.  
4 I actually don't know if it is --- it's probably mixed,  
5 honestly.

6 Q. Well, we can look at it, but it is not mixed.  
7 It is a one-time survey.

8 A. Well, to be clear, the way we phrase these  
9 things sometimes are --- I'm trying to be --- are  
10 according to certain conventions academically, so that  
11 sometimes it will be framed that way because from an  
12 academic perspective we'll use that context, but I think  
13 some of the data was actually collected in both  
14 collections.

15 Q. The Roberts study you understand to be a  
16 prospective, longitudinal study, do you not?

17 A. Well, actually, you are testing me on that. Did  
18 they set out at the beginning to do it or did they go  
19 back and look? I'd have to see.

20 Q. Well, based on the method, I think the answer is  
21 they went back and looked because it begins we reviewed?

22 A. Yes.

23 Q. Do you --- is it your opinion that amongst the  
24 available data, the Roberts study is --- on the impact

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1 that?

2 ATTORNEY BLOCK: I think he needs some  
3 time to get ---.

4 THE WITNESS: Yeah, to actually find  
5 the ---.

6 BY ATTORNEY BROOKS:

7 Q. Paragraph 56. And I will refer you to the third  
8 sentence.

9 A. All right.

10 Sorry say that again.

11 Q. I'm simply calling your attention to the place  
12 where you wrote at the Roberts report that after two  
13 years of a gender-affirming hormone therapy transgender  
14 women completed the 1.5 mile run 12 percent faster on  
15 average than non-transgender women.

16 A. Yes.

17 Q. And two years, not a trick question here, twice  
18 as long as the one year testosterone suppression  
19 requirement that led to the NCAA rule.

20 Correct?

21 A. Two years is twice one year, yes.

22 Q. And you would agree with me that a 12 percent  
23 faster in women's time is a substantial advantage?

24 ATTORNEY BLOCK: Objection to form.

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1 THE WITNESS: So this is a bit --- this  
2 is a bit of the same conversation. I guess I can't say  
3 that in a blanket way. It depends on context.

4 BY ATTORNEY BROOKS:

5 **Q. The context here is that that these are all Air**  
6 **Force members, do you recall?**

7 A. I believe they are all Air Force members, yes.

8 **Q. All subject to Air Force physical fitness**  
9 **requirements. So we are not talking about couch**  
10 **potatoes?**

11 A. I'm not rendering an opinion there as an expert.

12 **Q. Generally you would accept that this is a**  
13 **relatively fit population?**

14 A. I can't even render an opinion there as an  
15 expert.

16 **Q. Do you have some unhealthy relative who's a**  
17 **member of the armed forces?**

18 A. I was in the National Guard, so I do have some  
19 insight.

20 **Q. Okay.**

21 **You would agree, would you not, that running**  
22 **speed and endurance, per se, are relevant to quite a**  
23 **number of sports?**

24 A. Running speed and endurance are relevant to many

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1 sports. I'm certain that is true. I'm not ---

2 **Q. Well ---.**

3 A. --- an expert again.

4 **Q. I'm no sports fan, but we've all seen enough**  
5 **sports to know there's a lot of running involved not**  
6 **just in track but in basketball, soccer, lacrosse and**  
7 **field hockey.**

8 **Correct?**

9 A. I have observed that, yes. But again, I'm not  
10 rendering an expert opinion there, but yes.

11 **Q. And on page six of this paper ---.**

12 A. This is Roberts.

13 **Q. Yes, Roberts and Exhibit 10. Roberts and his**  
14 **co-authors summarize in their conclusion by stating,**  
15 **quote, in this study we confirm that the use of gender**  
16 **affirming hormones are associated with changes in**  
17 **athletic performance and demonstrated that the**  
18 **pretreatment differences between a transgender and a**  
19 **cisgender woman persist beyond the 12-month time**  
20 **currently --- requirement currently being proposed for**  
21 **athletic competition by the World Athletics and the IOC.**  
22 **Do you see that?**

23 A. This is the conclusion section?

24 **Q. It is.**

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1 A. Yes, I see that.

2 **Q. And you don't have any expert opinions that the**  
3 **findings of Roberts are inaccurate or unreliable, do**  
4 **you?**

5 A. So the --- this is again a question of context.  
6 So I have no reason to suspect that these data are  
7 suspect. The only question then is what we conclude  
8 when you do a study of --- for the transgender women I  
9 think we are talking about 29 people, which I certainly  
10 like a lot better than simply pointing to a random  
11 individual, but I recognize as also simply 29  
12 individuals in a certain circumstance that might or  
13 might not be replicated as we do this again and increase  
14 the numbers of people that we evaluate.

15 **Q. You don't propose to offer any expert opinion**  
16 **that the findings of Roberts as reported in this paper**  
17 **of 2020 are inaccurate?**

18 A. So, I guess the way I said it is how I said it  
19 already, which is I'm not doubting Roberts' data, but I  
20 wouldn't then over generalize to say that I know that  
21 these would be the findings we would see in every  
22 similar circumstance.

23 **Q. And are you aware that one common track event or**  
24 **cross-country event, I can never keep them straight, is**

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1 **the 1600 meter, which is about a mile?**

2 A. Actually, that is not my expertise. I believe  
3 you.

4 **Q. Are you aware that the 3,000 meter, a 1.8 mile**  
5 **distance, is a standard event?**

6 A. If you are meaning to quiz me on the standard  
7 lengths these days and meters and all of that, no.

8 ATTORNEY BROOKS: Well, I can't complete  
9 my next document in two minutes, we if we want to break  
10 at 1:00 now or I can do one more document.

11 ATTORNEY BLOCK: I'm fine continuing if  
12 you are.

13 THE WITNESS: My bias is to push.

14 ATTORNEY BROOKS: Folks online, we're  
15 going to continue a little bit farther.

16 BY ATTORNEY BROOKS:

17 **Q. You cited a paper by Harper from 2015. And that**  
18 **paper also I take it you studied with some detail?**

19 A. Yes.

20 **Q. And how many individuals did Harper have in that**  
21 **study?**

22 A. I --- do we have her ---?

23 **Q. Everything that you mention I have.**

24 ATTORNEY BROOKS: Let me mark as Safer



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1 Exhibit 11 ---

2 ATTORNEY WILKINSON: Yes.

3 ATTORNEY BROOKS: --- Harper's --- Harper  
4 et al. or just Harper, article Race Times for  
5 Transgender Athletes from 2015.

6 ATTORNEY WILKINSON: Tab 61.

7 ---

8 (Whereupon, Exhibit 11, Race Times for  
9 Transgender Athletes Article, was marked for  
10 identification.)

11 ---

12 THE WITNESS: Thank you.

13 BY ATTORNEY BROOKS:

14 **Q. You say you have worked with Joanna Harper, you**  
15 **are aware that Dr. Harper is both an athlete and**  
16 **transgender?**

17 ATTORNEY BLOCK: Objection to form.

18 THE WITNESS: I am aware. I am aware  
19 that she is an athlete, and I'm aware that she is  
20 transgender.

21 BY ATTORNEY BROOKS:

22 **Q. Did you have after studying the paper end up**  
23 **with an understanding of how many participants there**  
24 **were?**

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1 **long that they had suppressed testosterone.**

2 **Correct?**

3 A. There was no independent confirmation beyond Ms.  
4 Harper and her dealing with other subjects directly.

5 **Q. Well, in your view as a scientist, that's not**  
6 **independent confirmation, is it?**

7 ATTORNEY BLOCK: Objection to form.

8 THE WITNESS: So I'm not expressing an  
9 opinion there because in a science --- you know, in a  
10 scientific paper we would have --- we would have peer  
11 review, but we don't --- that just --- ends up being a  
12 little bit of a fuzzy reality.

13 BY ATTORNEY BROOKS:

14 **Q. There is no information in this paper about what**  
15 **testosterone levels were achieved by any of these**  
16 **individuals as a result of suppression, is there?**

17 A. I don't know. Let's --- I can look through that  
18 a little bit because does she reference how many of them  
19 have had surgery and such? It has been quite a while,  
20 you know. So notably, there is some independent  
21 confirmation of some of the data because some of this  
22 was posted.

23 **Q. Wait. Let me just be clear. Some of the times**  
24 **were verified independently.**

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1 A. There were eight participants. I'm looking at  
2 Table 5.

3 **Q. Did you have an understanding of how those**  
4 **participants were recruited?**

5 A. I do have some understanding of that, yes.

6 **Q. How is that?**

7 A. The --- how would I characterize this? It's  
8 somewhat ad hoc in the sense that Ms. Harper is in the  
9 category of these other participants, and so she was  
10 able to identify others that met the criteria of being  
11 both transgender and being sufficiently intense in their  
12 middle distance running that they had race times that  
13 they could identify that would allow for the --- for  
14 these determinations of age based --- I don't know all  
15 the terminology here, but their age-based grade  
16 proportional to others in that same sex category.

17 **Q. And it is consistent with your understanding, is**  
18 **it not, that all of the information in this study about**  
19 **what hormonal treatment these individuals had undergone**  
20 **was self reported?**

21 A. This is --- the entire study is self report,  
22 that is she didn't have --- Ms. Harper did not have  
23 access to people's individual records independently.

24 **Q. So there was no independent confirmation of how**

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1 **Correct?**

2 A. That's correct.

3 **Q. Nothing about the hormonal treatment?**

4 A. Right.

5 ATTORNEY BLOCK: Do you want to give him  
6 a chance to review it?

7 BY ATTORNEY BROOKS:

8 **Q. Doctor Safer, let me just withdraw that question**  
9 **and ask you another question.**

10 A. Yeah, go ahead.

11 **Q. Do you know whether Doctor Harper stands behind**  
12 **the conclusions of her 2015 paper today?**

13 A. If you ask me do I know it, that's too strong a  
14 statement.

15 ATTORNEY BROOKS: Let me mark as Safer  
16 Exhibit 12 an article by Joanna Harper and others from  
17 2021 entitled How Does Hormone Transition in Transgender  
18 Women Change Body Composition, Muscle Strength and  
19 Hemoglobin.

20 ATTORNEY WILKINSON: Tab 21.

21 ---

22 (Whereupon, Exhibit 12, Joanna Harper  
23 Article, was marked for identification.)

24 ---

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1 BY ATTORNEY BROOKS:

2 **Q. Dr. Safer, have we put that in front of you?**

3 **Yes, we have. Are you familiar with this article?**

4 A. I am.

5 **Q. And have you read it, reviewed it recently?**

6 A. I have reviewed it relatively recently.

7 **Q. And do you understand, and I didn't completely**  
8 **read the title. The second sentence of the title says**  
9 **Systematic Review with the Focus on Implications for**  
10 **Sport Participation.**

11 **Do you see that?**

12 A. I do.

13 **Q. Can you tell me why when you cited Harper's 2015**  
14 **paper that you just referred to as older science you**  
15 **didn't cite Harper's 2021 publication?**

16 A. So to be clear, I didn't use the older science.  
17 I simply referenced Harper's paper as one of the only  
18 two papers on the subject. And your question?

19 **Q. Why didn't you cite Harper's 2021 paper on the**  
20 **topic?**

21 A. So this paper is more in the category of the  
22 papers looking at impact on tissues of which there are  
23 several papers as opposed to actually investigating a  
24 specific activity, a person's activity. And does this

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1 **endurance and performance?**

2 A. The statement here is too broad, so it's simply  
3 raising questions.

4 **Q. Well, Joanna Harper says here that the findings**  
5 **of her current review were that 30 months of gender**  
6 **affirming hormone therapy may be sufficient to attenuate**  
7 **some but not all influencing factors associated with**  
8 **muscular endurance and performance?**

9 ATTORNEY BLOCK: Objection to leaving out  
10 words of what you quoted.

11 BY ATTORNEY BROOKS:

12 **Q. And my question for you is do you intend to**  
13 **offer an expert opinion that you believe is inconsistent**  
14 **with that statement?**

15 ATTORNEY BLOCK: Same objection. It's  
16 misquoting the document.

17 THE WITNESS: So the operative or  
18 inoperative word here is may be sufficient, and so when  
19 we're --- these are research questions as we try to  
20 understand physiology and the relevance of certain  
21 testosterone levels at certain endpoints and then not  
22 just endpoints as surrogates, which is what most of the  
23 papers to date still are, but endpoints in actual  
24 athleticism and athletic competition. And so that's all

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1 have primary data in it?

2 **Q. Well, let me take you to page eight.**

3 A. Yeah, I don't even think this has a final data  
4 in it.

5 **Q. Describing the Roberts study, Harper here on**  
6 **page eight, column one, about halfway down, summarizes**  
7 **as follows: Quote, trans women ran significantly faster**  
8 **during the 1.5 mile fitness test than ciswomen. These**  
9 **observations in trained transgender individuals are**  
10 **consistent with the finding of the current review in**  
11 **untrained individuals whereby 30 months of gender**  
12 **affirming hormone therapy maybe sufficient to attenuate**  
13 **some but all influencing factors associated with**  
14 **muscular endurance and performance, closed quote.**

15 **Do you see that?**

16 A. Yes. This is the end of the paragraph there?

17 **Q. Yes.**

18 A. We're starting with these observations, yes, I  
19 see that.

20 **Q. And do you propose to offer any expert opinion**  
21 **inconsistent with Joanna Harper's summary of the data**  
22 **here suggesting that 30 months of gender affirming**  
23 **hormone therapy may be sufficient to attenuate some but**  
24 **not all influencing factors associated with muscular**

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1 this is doing is putting out some questions or some  
2 potential thoughts.

3 BY ATTORNEY BROOKS:

4 **Q. Let me ask you to turn to page one and column**  
5 **one.**

6 A. Of this same paper?

7 **Q. Of the same paper. In the conclusion of the**  
8 **abstract the last sentence reads, quote, these findings**  
9 **suggest the strength may be well be preserved in trans**  
10 **women during the first three years of hormone therapy,**  
11 **closed quote.**

12 **Do you see that?**

13 A. I do.

14 **Q. And having reviewed whatever literature you have**  
15 **reviewed to date do you share Doctor Harper's**  
16 **understanding that strength may well be preserved in**  
17 **trans women during the first three years of hormone**  
18 **therapy?**

19 ATTORNEY BLOCK: Objection to misquoting  
20 the document.

21 THE WITNESS: So I can't comment on Ms.  
22 Harper's understanding, but if you're asking is that ---  
23 you know, is the question a question, so the question is  
24 a question. These findings suggest that strength may

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1 and again an operative word is may.

2 BY ATTORNEY BROOKS:

3 **Q. Yes.**

4 A. And these are as I, a scientist, and she is a  
5 scientist too, we are turning the earth, as it were, of  
6 what we know looking for what questions we might want to  
7 study and how we might want to frame studies going  
8 forward.

9 **Q. Let me take you back to page eight, if I may.**

10 **And the penultimate sentence of this paper at the bottom**  
11 **of the first column of paragraph of page eight reads,**  
12 **quote --- well, let me read --- yeah, I will just read**  
13 **that, quote, whether transgender and cisgender women can**  
14 **engage in meaningful sport even after gender affirming**  
15 **hormone therapy is a highly debated question, closed**  
16 **quote.**

17 **Do you see that language?**

18 A. I do.

19 **Q. You'll agree that up to the present that is a**  
20 **highly debated question?**

21 ATTORNEY BLOCK: Objection to form.

22 THE WITNESS: There's context there too.

23 So this is referencing a league sport and it's --- as  
24 well there are a range of potential sports, and so the

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1 **women can engage in meaningful sport even after gender**  
2 **affirming hormone therapy is one on which reasonable**  
3 **scientists can differ and are differing today given the**  
4 **possibility of data?**

5 ATTORNEY BLOCK: Objection to form for  
6 the same reasons.

7 THE WITNESS: So I'm sitting here as a  
8 scientist talking about differences in athleticism and  
9 such and whether --- and so moving onto meaningful sport  
10 goes beyond my expertise. I'm only putting data  
11 together in a --- that's my lane on this subject.

12 ATTORNEY BROOKS: Okay.

13 Let's break for lunch.

14 ATTORNEY BLOCK: Let's go off the record,  
15 so 2:15.

16 ATTORNEY BROOKS: 2:15? Any dissent? No  
17 dissent.

18 VIDEOGRAPHER: Going off the record. The  
19 current time is 1:16 p.m. Eastern Standard Time.

20 OFF VIDEOTAPE

21 ---

22 (WHEREUPON, A SHORT BREAK WAS TAKEN.)

23 ---

24 ON VIDEOTAPE

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1 question and the degree to which it is highly debated  
2 even I'm not going to render an official opinion there.  
3 So the --- whether transgender and cisgender women can  
4 engage in meaningful sport depends on what sport we're  
5 talking about, what treatment we're talking about, age  
6 group, whether elite versus more of an intermural  
7 setting. And so it's just a relatively simple statement  
8 and to summarize a paper I guess.

9 BY ATTORNEY BROOKS:

10 **Q. You agree that this --- that is the question of**  
11 **whether transgender and cisgender women can engage in**  
12 **meaningful sport even after gender affirming hormone**  
13 **therapy is one on which reasonable scientists can**  
14 **disagree and today are disagreeing?**

15 ATTORNEY BLOCK: Objection to form.

16 THE WITNESS: So going back --- so is  
17 your --- so are you asking me --- I guess help me  
18 reframe what the question is there because there are a  
19 bunch of things packed into that sentence actually. And  
20 you heard me try to unpack them both.

21 BY ATTORNEY BROOKS:

22 **Q. That may be a complex question, as debated**  
23 **questions often are, but my question is do you agree**  
24 **that the question of whether transgender and cisgender**

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1 VIDEOGRAPHER: Back on the record. The  
2 current time is 2:18 p.m. Eastern Standard Time.

3 BY ATTORNEY BROOKS:

4 **Q. Good afternoon, Dr. Safer. Take you back into**  
5 **context, I'm going to ask you to find your expert**  
6 **report, Exhibit-1, and find paragraph 25, which we have**  
7 **looked at before. And there in the third sentence it**  
8 **reads based on current research comparing**  
9 **non-transgender boys and men with non-transgender girls**  
10 **and women before, during and after puberty the primary**  
11 **known biological driver of these average group**  
12 **differences is testosterone starting at puberty, and not**  
13 **reproductive biology or genetics, period, closed quote.**

14 **Do you see that language?**

15 A. Yes.

16 **Q. And your one cite for that is the endocrine that**  
17 **we've already looked at already.**

18 **Right?**

19 ATTORNEY BLOCK: Objection to the form.

20 THE WITNESS: So the citation in that  
21 paragraph is the Handelsman, yes.

22 BY ATTORNEY BROOKS:

23 **Q. And do you recall our earlier discussion about**  
24 **how the effects of testosterone are cumulative over time**

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1 rather than depending solely on the testosterone level  
2 of an individual at a particular time, right? Do you  
3 recall that discussion?

4 A. So the impact --- excuse me, the impact of  
5 testosterone is cumulative. It depends what impacts  
6 we're talking about. So there are impacts that are  
7 cumulative, like height, and there are impacts that  
8 really do reflect that point in time.

9 Q. Now, at the moment let me ask just based on your  
10 recollection. The Handelsman article is Exhibit-4. Do  
11 you have that? And I will ask you to find it in your  
12 pile. I should have neated up your pile of exhibits  
13 while you were out. That looks like it.

14 A. Got it, yes.

15 Q. The Handelsman article, as far as you recall,  
16 does not contain any data or conclusions concerning the  
17 effects of testosterone after the beginning of male  
18 puberty, does it?

19 ATTORNEY BLOCK: Objection to form.

20 THE WITNESS: Honestly, I would have to  
21 go look carefully.

22 BY ATTORNEY BROOKS:

23 Q. Then I won't take time to do that.

24 A. Okay.

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1 Q. It does or it doesn't. We will deal with that.

2 A. Yes.

3 Q. Do you know whether any other writing Professor  
4 Handelsman has expressed any view as to whether  
5 testosterone suppression after male puberty eliminates  
6 sex-based physical advantages sufficiently to maintain  
7 fairness in sports for women?

8 ATTORNEY BLOCK: Objection to the form.

9 THE WITNESS: So first of all, putting it  
10 altogether that way isn't necessarily how I would say it  
11 or how I would expect it to be said. It would be  
12 testosterone suppression and whatever the scientific  
13 finding at the moment would be. So we already know that  
14 the data that relate to athleticism are just the Roberts  
15 paper and the Harper paper, so I guess that is as much  
16 as I can say in that particular context. And in terms  
17 of --- so yes, I think that it wouldn't be --- I forgot  
18 already how you phrased that.

19 BY ATTORNEY BROOKS:

20 Q. Let me just ask again.

21 A. Yes.

22 Q. So the first question is not a hard one.

23 A. Okay.

24 Q. Do you know whether Professor Handelsman has

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1 himself in his publication expressed any view whether  
2 testosterone suppression after male puberty eliminates  
3 sex-based physical advantages sufficiently to maintain  
4 fairness in sports for women?

5 ATTORNEY BLOCK: Objection to form.

6 THE WITNESS: So I don't know if he has  
7 written something covering all those bases that you just  
8 described, how you described it.

9 ATTORNEY BROOKS: All right. Let's look  
10 at treatment variable. Let me mark as Exhibit 13 a  
11 short article by Dr. Roberts with a subsequent comment  
12 by David Handelsman.

13 ATTORNEY WILKINSON: Tab 62.

14 ATTORNEY BROOKS: And unfortunately, the  
15 words were a little clipped on this. We will see how we  
16 do.

17 ---

18 (Whereupon, Exhibit 13, Dr. Roberts Article, was  
19 marked for identification.)

20 ---

21 ATTORNEY BLOCK: Thanks.

22 BY ATTORNEY BROOKS:

23 Q. And I think a fair description of what we have  
24 here is a relatively popular press type piece by Dr.

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1 Roberts first. And this document is dated December 16,  
2 2020.

3 ATTORNEY BLOCK: Objection. Does it say  
4 where it was published?

5 ATTORNEY BROOKS: No, it doesn't say on  
6 its face where it was published. And as we sit here  
7 right now I don't recall, though actually looking at it  
8 I do recall that Kilio is an online publication of some  
9 sort, and I've seen the brand came from the Kilio  
10 website.

11 BY ATTORNEY BROOKS:

12 Q. At any rate, I see the date, I see the title.  
13 It purports to be an article by Professor Roberts. I  
14 just want to be clear in my description it does not ---  
15 it does not have the appearance of a separate peer  
16 review article since the summary taken off of the  
17 article that we've already looked at. And then at the  
18 end of it is a two-paragraph prospective on this offered  
19 by Dr. Handelsman.

20 Do you see that?

21 A. I do.

22 Q. And he begins by making clear that he is  
23 commenting on this study, that is Roberts study that is  
24 discussed above. He is not introducing new science,

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1 correct, is that consistent with your understanding?

2 ATTORNEY BLOCK: Objection. Give him a  
3 chance to read it.

4 THE WITNESS: So that, yes, my  
5 understanding, too, is that there is not new data here,  
6 mostly a commentary within the context some of our  
7 existing knowledge on the Roberts study.

8 BY ATTORNEY BROOKS:

9 **Q. And in his comment to Dr. Handelsman states in**  
10 **the second paragraph, as of 2020, quote, a major**  
11 **question remains whether gender affirming hormone**  
12 **treatment overcomes sex-based physical advantages**  
13 **sufficiently to maintain fairness so that an exception**  
14 **can be made for trans women, paren, natal males, closed**  
15 **paren, treated with estrogen.**

16 **Do you see that language?**

17 A. I do.

18 ATTORNEY BLOCK: Objection. I believe  
19 that is what it says, but I just want to note for the  
20 record that there is text cut off on the left.

21 ATTORNEY BROOKS: There is. And I'll get  
22 better copies. I'm looking at a copy that's not cut off  
23 I will represent.

24 BY ATTORNEY BROOKS:

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1 disagree with Professor Handelsman summary of the  
2 findings of Roberts?

3 ATTORNEY BLOCK: Objection to form. I'm  
4 just not sure it's all based on Roberts?

5 THE WITNESS: It is not clear to me that  
6 it's --- that it is based on Roberts for what it's  
7 worth. It's also somewhat simplistically written. And  
8 an example is we don't --- the contention with regard to  
9 athletic outcomes relates more to testosterone, and so  
10 saying transgender women treated with estrogens wouldn't  
11 be precisely how I would frame that either.

12 BY ATTORNEY BROOKS:

13 **Q. He concludes --- Professor Handelsman concludes**  
14 **by stating supporting federations should incorporate**  
15 **these findings in the strategies for including trans**  
16 **women in elite female competitions while maintaining**  
17 **fairness and safety for other women. Dr. Safer, do you**  
18 **agree that maintaining safety for cisgender women is a**  
19 **legitimate and indeed important concern?**

20 ATTORNEY BLOCK: Objection to form.

21 THE WITNESS: As an expert I'm not going  
22 to give an opinion.

23 BY ATTORNEY BROOKS:

24 **Q. As Doctor Safer do you agree that ensuring**

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1 **Q. And do you have an expert opinion as to ---**  
2 **well, do you propose to offer any opinion disagreeing**  
3 **with Professor Handelsman that as of 2020 it remained a**  
4 **major question whether gender affirming hormone**  
5 **treatment to overcome sex-based physical advantages**  
6 **sufficiently to maintain fairness so that an exception**  
7 **could be made for trans women treated with estrogen?**

8 A. So to me that's too broad a question if you're  
9 asking me to render an expert opinion about his opinion.

10 **Q. I'm asking whether you propose to offer an**  
11 **expert opinion inconsistent with his view that remains a**  
12 **major question as of 2020.**

13 A. It's --- I might --- well, I would at least  
14 phrase things differently in there --- we might have to  
15 go through pieces of it because certainly where we lack  
16 data I think we would agree, but in terms of those  
17 statements that then go on to editorialize, I don't know  
18 that we necessarily agree in how we would frame that.

19 **Q. A little farther down, maybe two sentences down**  
20 **it reads, quote, by contrast, trans women treated with**  
21 **estrogens after completing male puberty experienced only**  
22 **minimal declines in physical performance over 12 months,**  
23 **substantially surpassing average female performance for**  
24 **up to eight years, closed quote. Do you agree or**

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1 safety for cisgender women and girls is a legitimate  
2 concern?

3 ATTORNEY BLOCK: Objection to form.

4 THE WITNESS: So if I'm simply speaking  
5 not as an expert, just as an educated person in the  
6 field, then it is true that safety is important, but I'm  
7 not clear that --- I don't know that in most of these  
8 athletic activities it's actually a concern.

9 ATTORNEY BROOKS: Let me mark as Safer  
10 Exhibit 14 a document entitled Guidance with Transgender  
11 Inclusion in Domestic Sport with symbols of a number of  
12 UK sport governing bodies across the front and a  
13 statement published September 2021.

14 ATTORNEY WILKINSON: Tab 22.

15 ---

16 (Whereupon, Exhibit 14, Guidance with  
17 Transgender Inclusion in Domestic Sport,  
18 marked for identification.)

19 ---

20 THE WITNESS: Thank you.

21 BY ATTORNEY BROOKS:

22 **Q. And my first question for you, Dr. Safer, is**  
23 **whether you have seen this document before?**

24 A. I have seen this document before.



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1 **Q. And were you aware of it prior to its reference**  
2 **in this litigation?**

3 A. I don't know that I was.

4 **Q. And are you familiar with the role of the**  
5 **supporting body mentioned on the front page in**  
6 **governance of sport within the United Kingdom?**

7 A. By looking at all their logos, I cannot say that  
8 I know them all, no.

9 **Q. And do you have any knowledge as to whether**  
10 **these are official government charted --- chartered**  
11 **sporting governing bodies?**

12 A. I do not have that knowledge.

13 **Q. Have you now studied this document with some**  
14 **care?**

15 A. I would say that I have only looked at this  
16 document superficially. I'm certainly happy to look  
17 through it.

18 **Q. I will ask you just about a couple of passages.**  
19 **Let me ask you to turn to page three of the document.**  
20 **And towards the very bottom and the next to the last**  
21 **paragraph this --- five organizations states, quote, our**  
22 **work exploring the latest research, evidence and studies**  
23 **made clear that there are retained differences in**  
24 **strength, stamina and physique between the average women**

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1 **compared with the average transgender women for**  
2 **nonbinary person registered male at birth with or**  
3 **without testosterone suppression.**

4 **Do you see that language?**

5 A. I do.

6 **Q. And do you disagree with the conclusion of these**  
7 **UK sporting bodies that the latest research, evidence**  
8 **and studies now make clear that there are retained**  
9 **differences in strength, stamina and physique in**  
10 **nonbinary --- in transgender women or nonbinary persons**  
11 **registered male at birth with or without testosterone?**

12 ATTORNEY BLOCK: Objection to referring  
13 to this as something written by the governing bodies as  
14 opposed to the quality council that makes  
15 recommendations to the governing bodies.

16 THE WITNESS: To the statement written by  
17 whoever actually wrote it that evidence and studies on  
18 the subject of transgender people make clear anything, I  
19 disagree.

20 BY ATTORNEY BROOKS:

21 **Q. Let me ask you to turn to page six, under the**  
22 **heading question review is recommending it states,**  
23 **quote, as a result of what the review found the guidance**  
24 **concludes that the inclusion of transgender people into**

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1 **female sport cannot be balanced regarding transgender**  
2 **inclusion, fairness and safety in gender affected sport**  
3 **where there is meaningful competition, period, closed**  
4 **quote.**

5 **Do you see that?**

6 A. I do.

7 **Q. And do you disagree with that conclusion of this**  
8 **organization or these organizations?**

9 A. So I really --- as we discussed earlier, I'm not  
10 going to express as an expert --- I don't think I'd be  
11 able to express as an expert fairness and so I can't  
12 comment any further.

13 **Q. Let me ask you to turn to page nine in your**  
14 **expert report, paragraph 49.**

15 A. Okay. Paragraph 49.

16 **Q. At the end of paragraph 49 you state, quote, a**  
17 **person's genetic makeup and internal and external**  
18 **reproductive anatomy are not useful indicators of**  
19 **athletic performance and have not been used in elite**  
20 **competition for decades. In making that statement when**  
21 **you refer to a person's genetic makeup were you**  
22 **referring to the question of whether they had XX or XY**  
23 **chromosomes?**

24 A. So when I'm making the statement genetic makeup

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1 I'm heavily referencing chromosomes. So I guess I would  
2 say that is mostly correct with some --- with perhaps  
3 some known genes, but mostly chromosomes.

4 **Q. You would agree, would you not, that respected**  
5 **voices in the field take the view that genetic sex it is**  
6 **at least an important determinant of athletic**  
7 **performance, do you not?**

8 ATTORNEY BLOCK: Objection to form.

9 THE WITNESS: So that I'm supposed to  
10 comment that there are people in the field who say that?  
11 I guess what I would say is the consensus right now  
12 among medical people advising elite athletic  
13 organizations would be to move away from using that as a  
14 surrogate. In the past it was. There were chromosome  
15 tests and the problem is that people have --- there is  
16 quite a bit of variety in biology and of course the  
17 moment you make a rule you see the exceptions.

18 BY ATTORNEY BROOKS:

19 **Q. The exceptions.**

20 A. And so I would say that as an expert I can't  
21 comment in terms of, you know, some study of everybody's  
22 opinion or some survey. But as somebody who has been on  
23 these committees I've observed that that was discarded.

24 **Q. So if you put alongside individuals who suffer**

1 from any condition that has been identified as a  
2 disorder of sexual development, am I correct that you  
3 consider yourself to have expertise in what constitutes  
4 a disorder of sexual development?

5 A. I have some expertise. And the terminology is  
6 actually differences of sexual development or sexual  
7 differentiation or intersex are the terms that are more  
8 popularly used.

9 Q. You would agree with me, would you not, that  
10 many respective sources up to the present would continue  
11 to refer to disorders of sexual development?

12 ATTORNEY BLOCK: Objection to form.

13 THE WITNESS: So there --- what I would  
14 say there is that --- the newer terminology has not ---  
15 has not yet permeated because there have not been  
16 revisions to all the documents that have been created.

17 BY ATTORNEY BROOKS:

18 Q. How about if we say DSD?

19 A. DSD is a reasonably safe or DSD intersex is what  
20 some people do, yes.

21 Q. Well, not all DSDs would be considered intersex  
22 conditions.

23 Correct?

24 A. You are right that some people try to parse

1 those two terms even. And there is --- but I think  
2 those kinds of distinctions might be on the scope of  
3 what we are discussing.

4 Q. Probably so. If we put on side individuals who  
5 suffer from anything that is characterized in the field  
6 as a DSD you would agree, would you not, that genetic  
7 makeup and specifically whether the individual possesses  
8 XX or XY chromosomes is a statistically meaningful  
9 indicator of athletic performance?

10 ATTORNEY BLOCK: Objection to form.

11 THE WITNESS: So no, and the --- it's ---  
12 I guess it depends what you mean is what it comes down  
13 to. So if you are --- if you are simply saying, well, a  
14 certain fraction of people of these chromosomes are  
15 going to be --- have this other characteristic, then  
16 maybe there are those kinds of associations. But if you  
17 are going to say that it's connected to the point where  
18 you could actually use one of those let's say observing  
19 a chromosome as an actual determination for a given  
20 individual, then I would say no.

21 BY ATTORNEY BROOKS:

22 Q. Is it your opinion that a gender identity itself  
23 is a --- or useful indicator of athletic performance?

24 A. It is my opinion that gender identity itself is

1 not a useful indicator of athletic performance.

2 Q. You say at paragraph 44 of your report --- I  
3 will save that. I think that is a new Declaration and  
4 we will not take time to do that.

5 Let me ask you to look at paragraph 24 of your  
6 rebuttal report. You say in paragraph 24 that none of  
7 Doctor Carlson's arguments support HB-3293 categorical  
8 ban of all girls who are transgender from all girls  
9 sports teams.

10 Do you see that?

11 A. I do.

12 Q. And I should continue. I'm sorry. Doctor  
13 Carlson's safety argument relates solely to contact and  
14 collision sports and the physical characteristics  
15 developed during puberty, period. By referring to a  
16 categorical ban let me ask this. Do you agree that  
17 safety considerations could justify or may justify  
18 excluding natal males who experienced all or significant  
19 part of male typical pubertal development from  
20 participating in female division of contact or collision  
21 sports such as basketball and soccer?

22 ATTORNEY BLOCK: Objection to form.

23 THE WITNESS: So if the question is would  
24 I anticipate as an expert that there would be a safety

1 explanation for banning transgender women from the  
2 female category, then I would --- I wouldn't --- I  
3 certainly --- let me think about which way to phrase it.  
4 I would have a hard time coming up with an example where  
5 I would use being transgender as a safety criterion as  
6 opposed to body habitus size or some other more  
7 objective criterion.

8 BY ATTORNEY BROOKS:

9 Q. Well, and I didn't say anything about gender  
10 status. Let me ask again. Would you agree that safety  
11 considerations could justify excluding natal males who  
12 have experienced all or a significant part of male  
13 typical pubertal development from participating in  
14 female division contact and collision sports such as  
15 basketball or soccer?

16 ATTORNEY BLOCK: Objection to form.

17 THE WITNESS: So you're saying that even  
18 if we otherwise decided that it would be okay for  
19 cisgender males to play with cisgender females, would I  
20 envision there being a safety reason to ban those  
21 cisgender males?

22 BY ATTORNEY BROOKS:

23 Q. All I asked had nothing to do with gender  
24 identity. Do you agree that the introduction onto the

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1 field or the court in or have been spoken of its contact  
2 or collision sports in the female division of natal  
3 males who have gone through all or a significant part of  
4 male typical pubertal development could raise legitimate  
5 concerns about safety for the natal females?

6 ATTORNEY BLOCK: Same objections as the  
7 previous two questions.

8 THE WITNESS: So any person who's gone  
9 through a male puberty would that, per se, make me  
10 invoke a safety concern, if that's the question ---.

11 BY ATTORNEY BROOKS:

12 **Q. Could that in your mind raise the given safety**  
13 **concerns?**

14 A. So I would not --- the word legitimate I'm not  
15 addressing, but I'm not aware of that in and of itself  
16 being a safety concern.

17 **Q. You state in paragraph 22 of your rebuttal**  
18 **report that, quote, transgender athletes and women have**  
19 **been competing in NCAA and secondary school athletics**  
20 **for many years at this point. Let me ask you if you are**  
21 **aware of any instance in which natal males have competed**  
22 **in the female category in any contact or collision sport**  
23 **in either the NCAA or high school division?**

24 ATTORNEY BLOCK: Objection to form.

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1 **Q. I apologize if I asked something early in the**  
2 **morning, but it's faster than trying to dig back into**  
3 **the transcript. Do you have any opinion as to whether**  
4 **it is reasonable to exclude a natal male with a male**  
5 **gender identity from a high school girls basketball**  
6 **team?**

7 ATTORNEY BLOCK: Objection to form.

8 THE WITNESS: So ask that again a little  
9 bit slower.

10 BY ATTORNEY BROOKS:

11 **Q. Do you have have any opinion as to whether it is**  
12 **reasonable to exclude a natal male with a male gender**  
13 **identity from participation in a girls high school**  
14 **basketball team?**

15 ATTORNEY BLOCK: Objection.

16 THE WITNESS: I do not have an expert  
17 opinion on that subject.

18 BY ATTORNEY BROOKS:

19 **Q. Do you have a personal view?**

20 A. I don't know that I --- there it would get more  
21 complicated depending on context.

22 **Q. You don't have a simple yes or no personal view**  
23 **on that question?**

24 A. I don't.

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1 THE WITNESS: So can I identify  
2 transgender girls or women specifically and specific  
3 instances of participation? I cannot.

4 BY ATTORNEY BROOKS:

5 **Q. What was your basis for asserting that such**  
6 **athletes have been competing in the NCAA and secondary**  
7 **school athletics for many years?**

8 ATTORNEY BLOCK: I'm sorry. Is the  
9 question about collision sports? Because you are  
10 quoting something that is not about collision sports.

11 ATTORNEY BROOKS: Let me break that out.  
12 Thank you.

13 BY ATTORNEY BROOKS:

14 **Q. Do you have a view as to whether --- I shouldn't**  
15 **say a view. Do you have any information as to whether**  
16 **transgender athletes have been competing in the women's**  
17 **division of NCAA or secondary school athletics in any**  
18 **contact or collision sports for many years?**

19 A. That information on the validity is that they  
20 have had access because there has not been a ban.

21 **Q. But whether they have done so you do not have**  
22 **any information?**

23 A. But I cannot point to specific instances,  
24 exactly.

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1 **Q. And do you have a view whether it is reasonable**  
2 **to exclude a natal male with a female gender identity**  
3 **from participation in a high school girls basketball**  
4 **team?**

5 ATTORNEY BLOCK: Objection to form.

6 THE WITNESS: So do I have a view on  
7 participation of a cisgender girl in the girls category?  
8 Sorry. Say it again.

9 BY ATTORNEY BROOKS:

10 **Q. I said do you have a view on whether it is**  
11 **reasonable to exclude a natal male with a female gender**  
12 **identity from participation in the high school girls**  
13 **basketball team?**

14 ATTORNEY BLOCK: Objection to form.

15 THE WITNESS: So that is a transgender  
16 girl, got it. So --- and the question is do I have a  
17 view on --- I apologize. Go back.

18 BY ATTORNEY BROOKS:

19 **Q. I can do it again.**

20 A. Yes, do it again. Sorry.

21 **Q. Do you have a view as to whether it is**  
22 **reasonable to exclude a natal male with a transgender**  
23 **identity from participation in the girls high school**  
24 **basketball team?**

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1 ATTORNEY BLOCK: Objection to form.

2 THE WITNESS: And it is do I have a view  
3 on excluding --- as an expert am I opining on that? I'm  
4 not. I'm opining as a scientist on what the data are.

5 BY ATTORNEY BROOKS:

6 **Q. Do you consider a policy that excludes natal  
7 males with a male gender identity from the girls  
8 basketball team to be, quote, discriminatory?**

9 ATTORNEY BLOCK: Objection to form and  
10 scope.

11 THE WITNESS: So as an expert I'm not  
12 taking a position on excluding cisgender males from the  
13 female category, if I answered that correctly.

14 BY ATTORNEY BROOKS:

15 **Q. My question was simply do you consider such a  
16 policy to be a discriminatory policy?**

17 ATTORNEY BLOCK: Objection to form and  
18 scope.

19 THE WITNESS: So are you asking me as an  
20 expert to define discrimination?

21 BY ATTORNEY BROOKS:

22 **Q. I will direct you to paragraph 27 of your  
23 rebuttal report. And there you wrote Doctor Carlson has  
24 not offered cogent explanation for why alleged safety**

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1 definition or am I acting as an expert to define these  
2 words, and I think we are kind of in that situation.

3 BY ATTORNEY BROOKS:

4 **Q. But I'm asking you about your expert reports in  
5 the litigation. You must have meant something. What  
6 did you mean by nondiscriminatory when you submitted  
7 this expert report?**

8 ATTORNEY BLOCK: Objection to form.

9 THE WITNESS: So when I'm using the word  
10 nondiscriminatory I am using it to mean something that  
11 isn't using some other indicator --- well, I'm really  
12 just using it in the broadest sense to something that is  
13 including people.

14 BY ATTORNEY BROOKS:

15 **Q. Using it in the broadest sense, discriminating  
16 between one category and another is --- could be a good  
17 thing or a bad thing.**

18 **Correct?**

19 ATTORNEY BLOCK: Objection to form.

20 THE WITNESS: As an expert I --- that is  
21 way outside my scope. But simply as an English speaker,  
22 yes, discrimination could be good or it can be bad, yes.

23 BY ATTORNEY BROOKS:

24 **Q. And for instance, if you are --- well, you said**

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1 **concerns based on average differences in size and  
2 strength should be addressed within an across the board  
3 exclusion of transgender women as opposed to tailored  
4 nondiscriminatory policies.**

5 **Do you see that?**

6 A. I do.

7 **Q. So understanding discriminatory, however you did  
8 understand it when you wrote that, do you consider a  
9 policy that prohibits natal males with a male gender  
10 identity from participating on the girls basketball team  
11 to be a discriminatory policy?**

12 ATTORNEY BLOCK: Same objections.

13 THE WITNESS: Right. So I'm not defining  
14 --- I'm not defining discriminatory here. I'm ---  
15 right. So if you are asking as an expert to define  
16 discriminatory, that I can't do.

17 BY ATTORNEY BROOKS:

18 **Q. Well, if you don't know what discriminatory  
19 means, what do you mean when you referred to a tailored  
20 nondiscriminatory policy?**

21 ATTORNEY BLOCK: Objection to form.

22 THE WITNESS: I guess I have to circle  
23 back initially to --- I mean we can do that for any word  
24 here, right, where I could have like my own personal

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1 **you don't prescribe to minors, so --- but if you are  
2 dealing with a 19-year-old who says and you concluded I  
3 need gender affirming hormone, and I will use the term  
4 you prefer, if that individual's hormones and biology  
5 are female then gender affirming hormones are going to  
6 consist, among other things, perhaps of administering  
7 testosterone.**

8 **Correct?**

9 A. Yes, typically we would have have ---.

10 **Q. And if that individual's biology and hormones  
11 endogenous were male, then the gender affirming hormones  
12 would include among other things estrogen or estrogen  
13 analog.**

14 **Correct?**

15 ATTORNEY BLOCK: Objection to form.

16 THE WITNESS: If that person had  
17 typically --- typically a male hormone profile, right,  
18 to move toward a more feminine profile that typically  
19 would include estrogens or some other agents that were  
20 other than testosterone, yes.

21 BY ATTORNEY BROOKS:

22 **Q. So speaking scientifically and not in civil  
23 rights terms, if I may, you as a scientist, as you  
24 decide which regimen of hormones to administer to this**

1 individual have to discriminate between those who are  
2 endogenously male and those who are endogenously female  
3 in deciding which regimen you prescribe.

4 Correct?

5 ATTORNEY BLOCK: Objection to the form.

6 THE WITNESS: We have to make a decision.

7 And so if you are trying to get me to say that  
8 discrimination can be defined as making decisions, I'm  
9 with you and yes.

10 BY ATTORNEY BROOKS:

11 Q. Okay.

12 Let me just run down a few items to make sure.

13 You have not personally engaged in any research  
14 regarding sports physiology, have you?

15 A. I'm trying to think if there's anything. I  
16 don't believe I have.

17 Q. You yourself haven't personally engaged in any  
18 research or published any papers --- that's a compound  
19 question. You, yourself, haven't engaged in any  
20 research relating to sports medicine or sports injuries,  
21 have you?

22 A. I have not engaged in any research with regard  
23 to sports injuries. And the answer to the first part of  
24 that gets a little muddled because some of the papers

1 can have --- those actually can have a sports context.

2 Q. Have you done any research on the impact of  
3 testosterone suppression on athletic performance or any  
4 measurement of strength?

5 A. So the second piece of that is I have not done  
6 any research that specifically used strength as an  
7 endpoint in my own studies. To the second piece of  
8 those --- I forgot what ---.

9 Q. Athletic performance?

10 A. Athletic performance, there it gets a muddled  
11 thing. The research that I have done can be applicable  
12 in that context.

13 Q. Well, that is if your endpoint is hematocrit  
14 count, to use the right term, you're saying that might  
15 have implications for athletic performance? Is that  
16 your point?

17 A. That is correct, yes.

18 Q. But you have not done any research in which any  
19 measurement of athletic performance is an endpoint?

20 ATTORNEY BLOCK: Objection to form.

21 THE WITNESS: Again, I have to think  
22 about how to say that because some of the --- part of  
23 the problem is that papers that we're looking at include  
24 quite a bit of literature on components that may be

1 that I have written about physiology and transgender  
2 people could apply to sports medicine.

3 Q. Have you, yourself, ever participated in  
4 devising any athletic training regimes for individuals  
5 of either sex?

6 A. I've not been involved in devising any training  
7 regimes.

8 Q. Have you done any research with related to male  
9 physiology --- I'm sorry, male physiological advantages  
10 relevant to athletics before, during or after puberty?

11 A. So there I have --- none of the research that I  
12 have done to date has been specifically looped as ---  
13 well, I can't even say that. So research that I have  
14 done with regard to observing physiology among my  
15 subjects can be applicable to sports medicine in some  
16 context.

17 Q. On what publications, if any, of yours do you  
18 believe relate to male physiological advantages in  
19 athletics before, during or after puberty?

20 A. Well, just off the top of my head, without  
21 looking at it exhaustively, I have a paper on  
22 hematocrit, which is the oxygen-carrying cells in  
23 people. In transgender people I have a paper on  
24 testosterone levels with different treatments. So those

1 applicable --- that may be applicable in sports  
2 medicine, whether it is muscle strength and muscle size  
3 or blood cell counts and such. And so that more  
4 expansively than my research is in that category.

5 Whereas, if I'm trying to be focused and narrow, then  
6 I've got those two studies, the one by Roberts and the  
7 one by Harper. And my papers are not those.

8 BY ATTORNEY BROOKS:

9 Q. You don't have any information about numbers of  
10 children in West Virginia who suffer from any DSD, do  
11 you?

12 A. No, as --- I guess I have to say no there in  
13 terms of actual surveys of kids in West Virginia, I know  
14 some brought statistics. West Virginia is big enough  
15 that you would predict that the statistics would  
16 generally apply, but that is as smart as I could get on  
17 the subject.

18 Q. And you are --- I think you effectively answered  
19 this, but to be clear for the record you are not opining  
20 that BPJ suffers from any DSD?

21 ATTORNEY BLOCK: Objection to the form.

22 THE WITNESS: So the --- here too we get  
23 into --- into an evolving area of definitions where you  
24 could envision if some of the specific genetics that are



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1 associated with being transgender became identified,  
2 would we in the medical world start to label those  
3 instances as DSD? It's possible. So that is just ---.

4 BY ATTORNEY BROOKS:

5 **Q. Thus far no such indicators have been**  
6 **identified.**

7 **Correct?**

8 A. I can't even --- I can't even say that  
9 definitively. It is an area of active conversation in  
10 terms of --- in terms of boarder setting in the medical  
11 community right now.

12 **Q. However, I think my question is easier. You're**  
13 **not offering an opinion --- any opinion that BPJ suffers**  
14 **from any DSD, are you?**

15 A. So I don't have --- so to be clear first I don't  
16 know the --- BPJ's specific medical condition. I wasn't  
17 brought in to evaluate that and I have not. So I can't  
18 actually render an opinion on any of the medical story  
19 there.

20 **Q. And you don't know whether any child or typical**  
21 **XY chromosome --- pardon me, you don't know whether any**  
22 **child with XY chromosomes who suffers from a DSD has**  
23 **ever sought to compete in female athletics in West**  
24 **Virginia up until the present?**

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1 ATTORNEY BLOCK: Objection to the form.

2 THE WITNESS: So the question is do I  
3 know of an instance of a specific individual with XY  
4 chromosomes and a DSD connected to that who has  
5 specifically participated in sports in West Virginia?

6 BY ATTORNEY BROOKS:

7 **Q. Who has sought to participate in female**  
8 **athletics in West Virginia?**

9 A. Right, so who has sought to participate in  
10 female sports in West Virginia. I cannot give you a  
11 specific instance, that is true. I can say, though,  
12 knowing the percentage of people who have DSDs and the  
13 size of the State of West Virginia that you would  
14 predict it would be true, but that would be again as  
15 smart as I could be on one subject.

16 ATTORNEY BROOKS: Let me mark as Safer  
17 Exhibit 15 what was previously designated as Tab 53, an  
18 article by Dr. Safer and others entitled the Mount Sinai  
19 Patient Center Preoperative Criteria Meant to Optimize  
20 Outcomes are Less of a Barrier to Care than WPATH SOC 7  
21 Criteria Before Transgender Specific Surgery. And yes,  
22 that is a mouthful.

23 ---

24 (Whereupon, Exhibit 15, Dr. Safer Article,

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1 was marked for identification.)

2 ---

3 BY ATTORNEY BROOKS:

4 **Q. Now, Dr. Safer, to be fair, I see that you are**  
5 **the last listed author on a fairly lengthy list of**  
6 **authors. And maybe that does and maybe that doesn't**  
7 **have significance in terms of how in depth your**  
8 **involvement in this paper was. Let me ask. Was this a**  
9 **paper of which you had some significant input?**

10 A. I had significant input. I can tell you that in  
11 the medical and scientific community the first author  
12 typically did the work and the last author is the senior  
13 author and supervisor. And the middle authors are  
14 actually the ones where you ---.

15 **Q. Okay.**

16 **I was aware of the significance of the first.**  
17 **I was not aware of the significance of the last. Okay.**  
18 **That is helpful. All of the authors here, if I'm**  
19 **correct, are colleagues within the Mount Sinai Clinic or**  
20 **division that you supervise.**

21 **Am I correct?**

22 A. All of the authors were in those positions at  
23 some point, which is how we came together to write the  
24 paper.

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1 **Q. And the paper I should say for the record is**  
2 **dated 2020. And let me see if I correctly understood**  
3 **what the paper is about. If we --- in this paper you**  
4 **compare the eligibility of patients who are seeking**  
5 **vaginoplasty under the WPATH Standard of Care 7 criteria**  
6 **versus the criteria actually used by your clinic.**

7 **Am I correct?**

8 A. Yes.

9 **Q. And just so we're clear, vaginoplasty is a**  
10 **surgery that is only done on biological male, natal male**  
11 **individuals.**

12 **Correct?**

13 ATTORNEY BLOCK: Objection to form.

14 THE WITNESS: So a vaginal plasty is the  
15 genital reconstruction surgery to create a vagina in a  
16 person. When we are using it as a gender affirming  
17 surgery, then we are using it on people who have what  
18 would be considered typically male anatomy in that  
19 circumstance but the surgery could also be used on  
20 somebody with typically female anatomy requiring  
21 construction for whatever their circumstance may be.

22 BY ATTORNEY BROOKS:

23 **Q. That said, the subjects discussed in this paper**  
24 **are all individuals who are seeking the surgery for**

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1 **gender affirming purposes rather than, for instance,**  
2 **because of a severe DSD.**

3 **Correct?**

4 A. The people in this circumstance are all people  
5 seeking the surgery for gender affirming purposes and  
6 not those for DSD or for other purposes, reconstruction  
7 of vaginas for accidents and cancers. I mean there is  
8 quite a range.

9 **Q. And the result as summarized in the abstract is**  
10 **that of 139 patients who were identified as subjects of**  
11 **this study, 63 qualified for surgery immediately based**  
12 **on the Mount Sinai criteria.**

13 **Correct?**

14 A. Yes.

15 **Q. Whereas only 21 of those would have qualified**  
16 **based on the criteria set out in the WPATH Standard of**  
17 **Care Version 7?**

18 A. Yes.

19 **Q. Three times as many individuals qualified for**  
20 **immediate surgery under the standard used by your clinic**  
21 **as opposed to the standards set out in the WPATH**  
22 **Standard of Care?**

23 A. That's correct.

24 **Q. When did your clinic begin approving surgery for**

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1 BY ATTORNEY BROOKS:

2 **Q. It is not the case, is it, that every patient**  
3 **who was qualified for surgery by your clinic had been**  
4 **demonstrated to satisfy the WPATH criteria for**  
5 **eligibility?**

6 A. It is --- so there were --- the patients just as  
7 stated who qualified by our criteria but not by WPATH  
8 criteria, there is such a group that existed, exactly,  
9 yes.

10 **Q. Okay.**

11 **And specifically, according to your criteria,**  
12 **three times as many patients are eligible according to**  
13 **WPATH criteria?**

14 ATTORNEY BLOCK: Objection to form.

15 THE WITNESS: It's not so much the three  
16 times. It is the pace. Some of this relates to pace  
17 and efficiency.

18 BY ATTORNEY BROOKS:

19 **Q. Dr. Safer, your clinic, according to this paper,**  
20 **approved for surgery 42 patients who were at that time**  
21 **not eligible according to WPATH criteria.**

22 **Correct?**

23 ATTORNEY BLOCK: Objection to form.

24 THE WITNESS: No. So the reality is we

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1 **patients who are not eligible under the WPATH Standard**  
2 **of Care?**

3 ATTORNEY BLOCK: Objection to form.

4 THE WITNESS: Yeah, so to be clear, the  
5 patients in our program qualify by both criteria. The  
6 paper is simply pointing out that our process is more  
7 efficient and patient friendly, but it's not to say that  
8 we were not informed by WPATH criteria also. And I  
9 think I need to expand even a little bit further. Part  
10 of the point of the paper is that it includes --- it  
11 includes efforts to know benefit to the patient that end  
12 up being time consuming and therefore are a waste of  
13 energy in contrast to our approach, which is actually  
14 more conservative than WPATH's approach. We actually  
15 look at more things but we do so in a more efficient  
16 fashion and that is actually the point of the paper.

17 BY ATTORNEY BROOKS:

18 **Q. Well, let me clarify one thing you just said.**  
19 **According to this paper, it is not the case, is it, that**  
20 **every patient for whom your clinic approved surgery was**  
21 **at that time qualified according to the WPATH criteria?**

22 ATTORNEY BLOCK: Objection to form.

23 THE WITNESS: Wait. Say it again. Could  
24 you repeat that?

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1 still live in the universe that everybody else lives in,  
2 so we are --- so this paper proposes a more appropriate  
3 and a more patient appropriate model, but it is not the  
4 case that we actually sent people to surgery who would  
5 not be approved by WPATH.

6 BY ATTORNEY BROOKS:

7 **Q. Well, were you personally involved in developing**  
8 **and approving Mount Sinai's criteria?**

9 A. Let me look at the role here. Yes, I definitely  
10 had a role in developing our criteria.

11 **Q. Let me ask you to look at page 168, column one,**  
12 **call your attention quite a bit to table one. And if I**  
13 **understand correctly, table one is designed to help us**  
14 **compare and contrast what is required by the WPATH**  
15 **criteria for surgical readiness versus the Mount Sinai**  
16 **criteria for surgical readiness.**

17 **Correct?**

18 A. That is correct, yes.

19 **Q. And the WPATH requires a letter of support from**  
20 **the patient's hormone provider confirming the hormone**  
21 **regimen and the length of time of hormone therapy.**

22 **Correct?**

23 A. That is how it is written, yes.

24 **Q. And farther down, under mental health it says**

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1 that it requires two letters of support from mental  
2 health providers?

3 A. It does, yes.

4 Q. And it gives on page 157 a definition who is a  
5 qualified mental health professional down towards the  
6 bottom of the second column. I'm going to ask you to  
7 find that language if you could?

8 A. Uh-huh (yes), yes.

9 Q. You say, many define licensed mental health  
10 providers having one or more of the following  
11 credentials, the LCSW, Licensed Clinical Social Worker.

12 Is that right?

13 A. LCSW is Licensed Clinical Social Worker, yes.

14 Q. And MD, DO that is a medical doctor, a doctor of  
15 --- what does the O stand for?

16 A. Osteopathy.

17 Q. There we go. A psychiatrist, a Ph.D., yes, that  
18 was surprising to me. Surely not just any Ph.D.?

19 A. Right, that's referring to a Ph.D. clinical  
20 psychologist.

21 Q. Okay.

22 Or any Master's level for above counseling  
23 degrees. But then you go on to say that in your  
24 evaluation based on SOC-7 criteria. That's the WPATH

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1 but I will quote it the most significant of the Mount  
2 Sinai criteria is the removal of the requirement of two  
3 independent psychiatric evaluations. And that is in  
4 column two of page 169, at the end of the first full  
5 paragraph. The first full paragraph, column two, the  
6 final sentence.

7 A. I'm in which column? Sorry.

8 Q. Column two.

9 A. Oh, column two. Sorry.

10 Q. The first full paragraph, final sentence.

11 A. The most significant deletion from the Mount  
12 Sinai criteria is the removal of --- yes, I see that.

13 Q. And you stated at the top of column one on the  
14 same page that, quote, finding two mental health  
15 providers to do independent evaluations is  
16 time-consuming, expensive and difficult.

17 Right?

18 A. Just trying to find that exact wording. Yes.

19 Q. So in your own clinic's practice, while WPATH  
20 calls for two letters from independent mental health  
21 providers, you concluded that because it was hard to get  
22 two independent evaluations your clinic would simply  
23 dispense with the requirement of any independent mental  
24 health review.

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1 criteria?

2 A. That's the WPATH criteria, yes.

3 Q. We included the above degrees with the following  
4 exclusions, mental health providers with lower than  
5 Master's level training and unlicensed mental health  
6 providers of any type, NPs and PAs without mental health  
7 credentials, physicians who are not psychiatrists or  
8 mental health providers who are still in training. Do  
9 you see that language?

10 A. I do.

11 Q. So under the definition used in your clinic you,  
12 yourself, do not qualify as a mental health  
13 professional.

14 Correct?

15 A. That is correct.

16 Q. So at no point have you relied on your own  
17 opinion for any mental health evaluation for  
18 eligibility?

19 A. That's correct.

20 Q. Okay.

21 I just wanted to understand that clearly. So  
22 back to mental health data. In says in the WPATH column  
23 that two letters of support from mental health providers  
24 are required. In this paper you state on the next page,

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1 Correct?

2 ATTORNEY BLOCK: Objection to form.

3 THE WITNESS: No, that is not quite  
4 correct. Part of the difference for our operation is  
5 that we have --- we have expertise in-house and we have  
6 --- if you notice, looking at the table, a longer list  
7 of requirements actually than WPATH does, which includes  
8 a social work component. And that actually is the ---  
9 that's the source of actually yet a second pair of eyes,  
10 as it were. And so it is not the case that we are ---  
11 that we're providing less of a screen, we are actually  
12 providing more of a screen. It's just that we are  
13 operating in a more efficient manner for the patient.  
14 BY ATTORNEY BROOKS:

15 Q. Let's flip back to column one. A few more lines  
16 down it says for our analysis patients who otherwise met  
17 WPATH SOC 7 criteria received one letter of support from  
18 the CTMS mental health provider. Right? You would  
19 agree with me, would you not, that the only letter of  
20 support for a mental health provider required by your  
21 protocols is from a mental health provider within your  
22 employment?

23 ATTORNEY BLOCK: Objection to not reading  
24 the complete sentence.

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1 THE WITNESS: So yes. So maybe let me  
2 just --- show me the wording again.

3 BY ATTORNEY BROOKS:

4 **Q. Yes. For our analysis --- and I'm beginning at**  
5 **perhaps eight lines down.**

6 A. Our analysis, yes.

7 **Q. Patients who otherwise met WPATH SOC 7 criteria**  
8 **received one letter of support from the CTMS mental**  
9 **health provider doing the assessment, period, closed**  
10 **quoted.**

11 **Do you see that?**

12 A. I do, yes.

13 **Q. As the term is generally understood in your**  
14 **field, a CTMS mental health provider is not independent**  
15 **--- let me use the correct terminology, is not an**  
16 **independent mental health provider?**

17 A. So in a clinic setting I don't know that the  
18 word independent actually has the same meaning as in  
19 some other context. So even a WPATH requirement isn't  
20 necessarily that it would be an unaffiliated person or I  
21 don't know what you were thinking independent might mean  
22 here, so I don't want to put words in your mouth or  
23 conjecture too much. But when we say independent we  
24 just mean two different people.

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1 **Q. But in fact, the letter of support from the CTMS**  
2 **mental health provider that you refer to in this**  
3 **paragraph at the top of column one of page 169 actually**  
4 **plays no role in your determination as to whether this**  
5 **patient is eligible for surgery.**

6 **Correct?**

7 ATTORNEY BLOCK: Objection to form.

8 THE WITNESS: So yes. I'm confused by  
9 the question.

10 BY ATTORNEY BROOKS:

11 **Q. I'm confused by the text. The final paragraph**  
12 **--- sentence in that paragraph reads these letters of**  
13 **support were used to satisfy third payor requirements to**  
14 **cover surgery and were not part of the CTMS assessment?**

15 A. Oh, yeah, that's a good point. The literal  
16 letter is because we are all in-house the opinion of the  
17 person is, of course, important and so the screen takes  
18 place. But the need to create --- the bureaucratic of  
19 creating a specific letter is one of the burdens that we  
20 are suggesting could be removed.

21 **Q. In table one, let me find this. Under mental**  
22 **health WPATH SOC-7 requires, quote, persistent, well**  
23 **documented gender dysphoria.**

24 **Do you see that?**

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1 A. I do.

2 **Q. And you understand well documented gender**  
3 **dysphoria to be referring to a general diagnosis under**  
4 **the DSM-V criteria?**

5 A. So for WPATH's purposes I think they are  
6 specifically referring to the DSM diagnosis.

7 **Q. In your clinic you are willing to approve for**  
8 **this --- I'm not sure how to actually say the word**  
9 **vaginoplasty surgery, individuals who do not suffer from**  
10 **persistent well documented gender dysphoria.**

11 **Correct?**

12 ATTORNEY BLOCK: Objection to the form.

13 THE WITNESS: So if you look, the list of  
14 the criteria for Mount Sinai, then the phrasing is a  
15 confirmation that this person --- for all intents and  
16 purposes, that this person is transgender and with the  
17 language and evolution we use that word gender dysphoria  
18 and we also use the new word that will replace gender  
19 dysphoria, gender incongruence, as the terms I  
20 referenced before, transgender.

21 BY ATTORNEY BROOKS:

22 **Q. And the effect of that is you do not require a**  
23 **diagnosis of gender dysphoria under the terms of DSM-V.**  
24 **Correct?**

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1 ATTORNEY BLOCK: Objection to form.

2 THE WITNESS: So the --- yeah, if we had  
3 our druthers, which is I think you are asking, and we  
4 did not --- and we weren't simply satisfying a third  
5 party payor, would we insist on that formal DSM-V  
6 criteria for a person we otherwise know to be  
7 transgender? We would not.

8 BY ATTORNEY BROOKS:

9 **Q. And in fact, you do not.**

10 **Correct?**

11 ATTORNEY BLOCK: Objection to form.

12 THE WITNESS: Well, as a practical  
13 matter, like I said, we live in a universe where we end  
14 up doing both what we suggest is the necessary approach  
15 and we end up, because we still live in the universe  
16 that we live in, satisfying the other approach even  
17 though we're suggesting that it's cumbersome.

18 BY ATTORNEY BROOKS:

19 **Q. Dr. Safer, you testified earlier that, in fact,**  
20 **in 42 patients your clinic determined they were surgery**  
21 **eligible even though they did not satisfy the SOC**  
22 **criteria listed in column one of table one?**

23 A. Right. So they are not --- so they would be ---  
24 they theoretically would be eligible without having

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1 satisfied the --- some of those specific WPATH criteria  
2 that we discussed. But in practice nobody went to  
3 surgery without covering both sets of criteria.

4 **Q. Isn't the precise results reported by this paper**  
5 **that 42 patients were deemed surgery approved who did**  
6 **not qualify under WPATH criteria?**

7 A. But I guess the bottom line of the paper is that  
8 if we followed our --- our rules alone, we would  
9 actually cover more details and be more conservative in  
10 our approach if a longer list of criteria and we would  
11 do so more quickly. That's all the paper says. It  
12 doesn't say that we have --- that we have actively  
13 defied the existing universe and sent people to surgery  
14 without covering the criteria that are generally being  
15 used by doctors.

16 **Q. And by the way, the surgery we're talking about,**  
17 **vaginoplasty, in the context where it is being used for**  
18 **gender affirming purposes, invariably includes**  
19 **castrating the individual.**

20 **Correct?**

21 ATTORNEY BLOCK: Objection to form and  
22 foundation.

23 THE WITNESS: So a vaginoplasty is a  
24 genital reconstruction surgery, which in this context is

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1 A. Well, it is the circumstance that some people  
2 more so outside of New York, some transgender people  
3 still do not have access to care for --- to gender  
4 affirming care and do get some of their treatment by  
5 alternative means. And if there is an insistence on a  
6 documented 12-month continuous hormone therapy  
7 requirement, then those people might not be able to be  
8 approved for surgery.

9 **Q. I need to ask you to clarify what you mean by**  
10 **obtaining by alternate means?**

11 A. We have people getting hormones from internet  
12 providers. We have people inappropriate --- well, I  
13 apologize, I don't want to make a value judgment there,  
14 but we have people getting hormones from friends or  
15 connections of theirs, things outside the system.

16 **Q. So you have some people come to you who have**  
17 **effectively self-diagnosed and self-prescribed ---**

18 ATTORNEY BLOCK: Objection.

19 BY ATTORNEY BROOKS:

20 **Q. --- hormone therapies?**

21 ATTORNEY BLOCK: Objection to form.

22 THE WITNESS: So when we are seeing  
23 people for surgeries, then it is no longer a matter of  
24 self-diagnosis because we see them ourselves with our

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1 taking the existing typically --- typical male genitalia  
2 and reconfiguring it into typically female genitalia.  
3 And in that --- in the procedure the testes are removed.

4 BY ATTORNEY BROOKS:

5 **Q. They're not reconfigured?**

6 A. They are not reconfigured.

7 **Q. Let me ask you 169, column one, it says about**  
8 **two-thirds of the way down, at the end of the paragraph**  
9 **that begins medical requirements for the Mount Sinai**  
10 **CTMS? I want to direct your opinion --- your attention**  
11 **to the final sentence.**

12 A. So which paragraph, column one.

13 **Q. Column one, the paragraph that begins halfway**  
14 **down, medical requirements?**

15 A. Yes.

16 **Q. Now, let's jump to the end. The Mount Sinai**  
17 **criteria also removed the 12-month continuous hormone**  
18 **therapy requirement for the vaginoplasty which**  
19 **complicates matters for people who have received hormone**  
20 **therapy from non-medical providers.**

21 **Do you see that language?**

22 A. I do.

23 **Q. Explain to me the reference for people who have**  
24 **received hormone therapy from non-medical providers?**

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1 internal team. But there are people who have  
2 self-prescribed their hormones or obtained them by  
3 nonconventional means, that part, yes.

4 BY ATTORNEY BROOKS:

5 **Q. And when people come in who have obtained**  
6 **hormones by nonconventional means and taken them without**  
7 **prescription necessarily, you chose to remove the**  
8 **requirement for 12 months properly prescribed continuous**  
9 **hormone therapy rather than insisting that the patients**  
10 **undergo control of hormone therapy for 12 months before**  
11 **you operate on them?**

12 ATTORNEY BLOCK: Objection to form.

13 THE WITNESS: So to clarify, again, these  
14 are --- we are proposing that this would be the  
15 protocol. In practice, we have not been able to do  
16 this, that is we have had to do both. But in our  
17 experience, as a program we don't see any benefit to a  
18 supervised --- a supervised regimen, that is we are not  
19 --- I'll just leave it there.

20 BY ATTORNEY BROOKS:

21 **Q. WPATH in table one requires that all psychiatric**  
22 **symptoms be, quote, well controlled.**

23 **Correct?**

24 A. They use that language, yes.



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1 **Q. And the language under the CTMS column is rather**  
 2 **different. Among other things it says no suicide**  
 3 **attempt in the last six months. Do you see that?**

4 A. Let me find it. We're in the table, right?

5 **Q. We are in the mental health section under CTMS**  
 6 **column?**

7 A. Yes.

8 **Q. No suicide attempt in the last six months. But**  
 9 **if the patient tried to commit suicide seven months ago,**  
 10 **that's okay?**

11 ATTORNEY BLOCK: Objection to form.

12 THE WITNESS: So the point here and the  
 13 distinction is that the WPATH criteria are too vague,  
 14 and so what you are observing with the Mount Sinai  
 15 criteria is they're much more granular. And rather than  
 16 leaving something to some subjective interpretation we  
 17 define some of the specifics to make it clearer on what  
 18 the guidelines should be.

19 BY ATTORNEY BROOKS:

20 **Q. You refer here in your guideline to no suicide**  
 21 **attempt in the last six months. If a patient has**  
 22 **entertained suicidal thoughts but made no attempt in the**  
 23 **last six months, did that patient potentially satisfy**  
 24 **the Mount Sinai criteria?**

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1 A. So that kind of decision would be at the  
 2 discretion of the reviewing mental health professional,  
 3 the psychiatrist or the psychologist, and so you can  
 4 certainly envision different circumstances. So even  
 5 going back to your example of seven months, you could  
 6 envision that something like that might be considered,  
 7 depending upon the person, too unstable even though they  
 8 technically met criteria. This isn't just a check box.  
 9 It is more a guideline. And similarly, to your point  
 10 about a suicidal ideation, there are different tiers of  
 11 them. And I won't claim to be an expert on the  
 12 specifics there, but my mental health professionals are  
 13 more concerned about some of those than others.

14 ATTORNEY BROOKS: Take a break.

15 VIDEOGRAPHER: The current time reads  
 16 3:35 p.m. Eastern Standard Time.

17 OFF VIDEOTAPE

18 ---

19 (WHEREUPON, A SHORT BREAK WAS TAKEN.)

20 ---

21 ON VIDEOTAPE

22 VIDEOGRAPHER: We are back on the record.

23 The current time is 3:55 p.m. Eastern Standard Time.

24 BY ATTORNEY BROOKS:

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1 **Q. Dr. Safer, you testified earlier, and I think**  
 2 **I'm using the word that you used that if your clinic had**  
 3 **its druthers they would be following or making decisions**  
 4 **strictly based on the criteria that are laid out in this**  
 5 **paper, Exhibit 15, under the heading of Mount Sinai**  
 6 **CTMS.**

7 **Correct?**

8 A. Yes.

9 **Q. And can I infer from that that you, yourself,**  
 10 **don't view the WPATH SOC-7 as setting out scientifically**  
 11 **established best practices but rather recommendations on**  
 12 **which you use different?**

13 ATTORNEY BLOCK: Objection to form.

14 THE WITNESS: No, I would not say that.  
 15 So SOC-7 sets out the guidelines as things were  
 16 understood in 2011 and 2012, and we have learned ---  
 17 we've learned and things have evolved since then in  
 18 terms of the care of transgender people.  
 19 BY ATTORNEY BROOKS:

20 **Q. Did you have any participation in the**  
 21 **development of the SOC-7 guidelines?**

22 A. I had very minimal participation. I helped  
 23 review some articles that informed those guidelines.

24 **Q. Those guidelines --- did you have any**

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1 **familiarity with the process of how they were being**  
 2 **drafted?**

3 A. I'm trying to think if I can say things  
 4 usefully. I was not close enough to the process that we  
 5 would want --- that I would want to start commenting on.

6 **Q. Do you know whether they addressed issues on**  
 7 **which opinions within the drafting committee differed?**

8 A. I can't comment on SOC-7. We are literally  
 9 writing SOC-8 now.

10 **Q. And on that are there issues that the SOC-8 is**  
 11 **addressing on which opinions significantly differ?**

12 A. Yes.

13 **Q. So it's not that every aspect of the guidelines**  
 14 **are unanimously agreed by every member?**

15 ATTORNEY BLOCK: Objection to form.

16 THE WITNESS: So with medical guidelines  
 17 in general there isn't --- that unanimity wouldn't be a  
 18 thing. They're referred to as consensus documents  
 19 rather than unanimous documents.

20 BY ATTORNEY BROOKS:

21 **Q. And what that tells us is that there is --- that**  
 22 **reasonable people differ on at least some aspects of**  
 23 **what is set forth in the document?**

24 ATTORNEY BLOCK: Objection to form.

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1 THE WITNESS: In all guidelines,  
2 including these, members of the committee even differ in  
3 terms of how things are framed and when consensus is  
4 obtained, but not unanimity.

5 BY ATTORNEY BROOKS:

6 **Q. How many gender performing surgeries or gender**  
7 **affirming surgeries were performed in your clinic in**  
8 **2021?**

9 A. In 2021, all --- there were, according to the  
10 New York Times, about 9,000 total surgeries performed at  
11 Mount Sinai hospitals, including everything we do. So  
12 that wouldn't just be vaginoplasty. That would include  
13 chest reconstruction surgeries, revisions of older  
14 surgeries, et cetera.

15 **Q. Well, you quote the New York Times. Where did**  
16 **they get the information?**

17 A. I suppose the sources is us.

18 **Q. You believe that number to be approximately**  
19 **accurate?**

20 A. I think that's right.

21 **Q. I don't trust the New York Times, but you have a**  
22 **pass. And now 2021 may or may not have been affected by**  
23 **COVID in terms of patients presenting and wanting**  
24 **surgery. Has there been a clear trend in numbers of**

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1 **surgeries performed by your clinic over the last five**  
2 **years?**

3 ATTORNEY BLOCK: Objection to form.

4 THE WITNESS: So there is definitely an  
5 increase in the number of surgeries at Mount Sinai over  
6 the past five years. Unfortunately, expectation is the  
7 challenge. We opened the program in 2016, so roughly  
8 those five years. And certainly the first few years  
9 were quieter as the reputation grew. In 2020, numbers  
10 were down because we had to divert resources to taking  
11 care of people with COVID. Our group, including myself,  
12 literally dropped what we were doing for a period of  
13 time to go become COVID hospital employees, and so there  
14 was a dip there in 2021 as a little bit of a rebound  
15 element to it.

16 BY ATTORNEY BROOKS:

17 **Q. Are you able to give me any average total**  
18 **receipts of your clinic or the hospital as a whole and**  
19 **associated physicians from gender affirming surgeries**  
20 **performed within 2021?**

21 A. I'm sorry, say that again.

22 **Q. Let me just ask this again. Do you have any**  
23 **knowledge as the total --- as to the total receipts of**  
24 **your clinic or the wider hospital and physicians**

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1 **involved as a result of gender affirming surgeries**  
2 **performed by your clinic in the last year?**

3 A. So do I know some of the financial elements?

4 **Q. Correct.**

5 A. So I do know some of the financial elements, but  
6 nothing that the hospital would allow me to share.

7 **Q. Your counsel can designate it as confidential**  
8 **later on, so it doesn't become public, but you are**  
9 **obliged to answer the question.**

10 ATTORNEY BLOCK: I'm not ---.

11 BY ATTORNEY BROOKS:

12 **Q. I'm entitled to understand your financial**  
13 **interest in the area of your testimony.**

14 ATTORNEY BLOCK: We are not representing  
15 him in the context of any legal dispute with Mount  
16 Sinai.

17 ATTORNEY BROOKS: I am entitled to  
18 understand the expert's financial interest. And I  
19 suggest to you, Counsel, that you'd rather have me  
20 questions asked here where you can designate it as  
21 confidential than at trial in a public courtroom.

22 ATTORNEY BLOCK: It's not up to me.

23 ATTORNEY BROOKS: You can confer if you  
24 want, because that would be the alternative. If you

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1 want to step out and confer with your witness, you  
2 should do so.

3 ATTORNEY BLOCK: It's not up to me to say  
4 what he can and can't say in contravention with an  
5 agreement with his employer, and so I think if you want  
6 to like obtain like a Protective Order, you know, with  
7 him.

8 ATTORNEY BROOKS: We have a Protective  
9 Order in place, Counsel.

10 ATTORNEY BLOCK: I know, I'm not  
11 representing him in that capacity, though. So if you  
12 want to interface with his attorney through Mount Sinai  
13 then you can, but I don't have an attorney/client  
14 relationship with him for purposes of any employment  
15 disputes.

16 ATTORNEY BROOKS: Are you instructing the  
17 witness not to answer?

18 ATTORNEY BLOCK: No, I'm not.

19 ATTORNEY BROOKS: Are you refusing to  
20 answer?

21 THE WITNESS: I wouldn't be able to  
22 answer without including the hospital lawyers.

23 BY ATTORNEY BROOKS:

24 **Q. Can you tell me ---?**

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1 ATTORNEY TRYON: This is Dave Tryon. I'm  
2 sorry ---.

3 ATTORNEY BROOKS: Go ahead.

4 ATTORNEY TRYON: May I just also say that  
5 I think if the witness is not willing to disclose his  
6 financial interest here, that that would be grounds to  
7 disqualify him as a witness, which on behalf of the  
8 state I would likely pursue. So I would respectfully  
9 request that he answer the question.

10 ATTORNEY BLOCK: Dave, on what basis is  
11 that grounds to --- he has disclosed everything required  
12 by the rules. You're asking for --- he has no financial  
13 interest in this litigation.

14 ATTORNEY BROOKS: We don't need to argue  
15 the motion right now. The motion seems likely, the  
16 motion will be briefed, but we don't --- we got no Judge  
17 here, we're not going to be deciding ---.

18 ATTORNEY BLOCK: If you want to file a  
19 subpoena as a third-party subpoena for that information  
20 with a Court Order, than you're free to do so. He is  
21 appearing here as an expert witness on his expert  
22 testimony. So you have plenty of discovery tools to  
23 obtain that information. And we're not his counsel for  
24 that.

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1 receives for patients who are seeking gender affirming  
2 surgery in the clinic?

3 A. We don't characterize it that way. There's a  
4 --- there's a wide range of reimbursements or lack of  
5 reimbursements across medicine. And gender affirming  
6 care includes quite that entire range actually, from  
7 mental health, which is under reimbursed, to the  
8 surgeries which are --- where there's more money.

9 **Q. I've been waiting to hear the flip side of that.**

10 A. So yes, so we have that, so I don't think I  
11 could give --- I wouldn't --- even were I allowed by the  
12 hospital to give you the specifics, I don't know that I  
13 would be able to do that on a per patient basis.

14 **Q. Can you tell me your total personal income in  
15 2021 from --- in any way related to your work in  
16 connection with your employment at Mount Sinai?**

17 A. So is this something that I'm answering?

18 ATTORNEY BLOCK: I'm sorry, could you  
19 restate the question?

20 THE WITNESS: He's asking for my ---  
21 you're asking for my salary?

22 BY ATTORNEY BROOKS:

23 **Q. I'm asking for your total income, in any way  
24 --- in 2021 in any way associated with the clinic at**

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1 ATTORNEY BROOKS: I do have discovery  
2 tools, including asking him questions at this  
3 deposition. I've attempted to do so. You have not  
4 instructed him not to answer. The witness has refused  
5 to answer. The record is clear.

6 BY ATTORNEY BROOKS:

7 **Q. Let me ask you about personally. Does your own  
8 income or any bonus you receive depend on any part of  
9 the overall revenues of your plan?**

10 A. It does not.

11 **Q. And does your personal income consist strictly  
12 of a salary or also a salary plus fees associated with  
13 surgeries performed?**

14 A. Exclusively a salary.

15 **Q. And your income depends in no way on how many  
16 surgeries, you yourself perform?**

17 A. That --- well, I don't perform surgeries I'm not  
18 an endocrinologist.

19 **Q. Pardon me.**

20 A. But that's right, it's not revenue based.

21 **Q. It's not revenue based in any way?**

22 A. In any way. That's right.

23 **Q. That is helpful. Do you have any understanding  
24 as to the average revenues per patient that your clinic**

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1 **Mount Sinai?**

2 A. So we're running into --- so I'm simply on  
3 salary, but the specifics of that are also something  
4 where I would need to include the Mount Sinai lawyers,  
5 because that's part of their practice, and I would have  
6 to defer to them.

7 **Q. You decline to answer the question about your  
8 own personal income?**

9 A. Yes.

10 ATTORNEY BROOKS: I won't take time to  
11 speak upon it, but I will object.

12 BY ATTORNEY BROOKS:

13 **Q. I read in some document that your spouse is an  
14 employee of Parexel --- if I'm pronouncing that company  
15 correctly.**

16 **Is that still the case?**

17 A. Yes.

18 **Q. And does that company derive any revenues from  
19 the sales, testing, clinical trials of any  
20 pharmaceutical that is used to suppress puberty or is  
21 used as a cross sex hormone?**

22 A. I don't know the answer. Parexel is a very  
23 large back office organization supporting clinical  
24 research with many clients. And so you can envision

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1 some connection buried in there, but I don't know  
2 specifics.

3 **Q. Fair enough.**

4 ATTORNEY BROOKS: Let me have 54.  
5 BY ATTORNEY BROOKS:

6 **Q. Let me ask you to turn to paragraph 18 in your  
7 expert report, and there in the first sentence you write  
8 although the detailed mechanisms are unknown, there is a  
9 medical consensus that there is a significant biologic  
10 component underlying gender identity, closed quote.**

11 **Do you see that?**

12 A. No, I might have pulled the wrong thing out.  
13 Which ---?

14 **Q. It's the expert report not the rebuttal?**

15 A. Expert report. And it's which paragraph?

16 **Q. Paragraph 18?**

17 A. Oh, sorry.

18 **Q. This is why lawyers number their paragraphs.**

19 A. That is wise. All right. Paragraph 18.

20 **Q. I'm just calling your attention --- and I have  
21 read into the record the first sentence of that  
22 paragraph.**

23 A. I see it.

24 **Q. And picking up on our earlier discussion about**

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1 THE WITNESS: So both of the papers  
2 reference reviews with larger bibliographies that  
3 reference yet other papers that support the statement.  
4 And when we're talking about what's informing the  
5 statement, of course, is not limited to the specific  
6 papers referenced, so that's part of the reason why I  
7 gave that example, for example, the endocrine society's  
8 formal statements on the project, which is a consensus  
9 view of more people than myself, of course.

10 ATTORNEY BROOKS: Let me mark as  
11 Exhibit 16, an article by Aruna Saraswat and others  
12 entitled Evidence Supporting the Biological Nature of  
13 Gender Identity from 2015 of which Dr. Safer is one of  
14 the co-authors.

15 ATTORNEY WILKINSON: Tab 54.

16 ---

17 (Whereupon, Exhibit 16, Aruna Saraswat  
18 Article, was marked for identification.)

19 ---

20 BY ATTORNEY BROOKS:

21 **Q. And Dr. Safer, is that a paper that you --- I  
22 guess I see by placement --- had supervisory  
23 responsibility for?**

24 A. Yes.

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1 **consensus. When you say there is a medical consensus,  
2 do you mean that all experts in the field agree or do  
3 you mean that in your view this is a majority opinion?**

4 ATTORNEY BLOCK: Objection to form.

5 THE WITNESS: So when I guess similar to  
6 when we talked about guidelines if the question is, is  
7 there unanimity, then there is never unanimity, so there  
8 you go.

9 BY ATTORNEY BROOKS:

10 **Q. Okay.**

11 A. I can be a little stronger, though, because the  
12 mainstream medical organizations have various statements  
13 in this space. So for example, the endocrine society,  
14 which is the largest international organization of  
15 endocrinologists does actually have a statement where  
16 the sum of the modeling for gender affirming care is  
17 prefaced with statements that support this.

18 **Q. In providing the basis for your opinion that  
19 there is such a consensus, you cite only two papers and  
20 those only papers that you had written yourself.**

21 **Did you consider those papers written by  
22 yourself to adequately document the existence of the  
23 medical consensus?**

24 ATTORNEY BLOCK: Objection to form.

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1 **Q. Let me --- I learned something in this  
2 deposition, so that is good.**

3 **Let me call your attention to page two and  
4 column two, and in the very bottom paragraph ---.**

5 ATTORNEY BLOCK: I'm sorry, did you mean  
6 200?

7 ATTORNEY BROOKS: I did mean 200. I  
8 apologize. That is also the second page.

9 BY ATTORNEY BROOKS:

10 **Q. In the bottom --- first column bottom paragraph  
11 it states, quote, however it is important to note that  
12 most transgender individuals develop a gender identity  
13 that cannot be explained by atypical sexual  
14 differentiation, closed quote.**

15 A. So this is column two.

16 **Q. Column one. If I misspoke I apologize.**

17 A. I could have misunderstood at this hour.

18 **Q. At the bottom paragraph?**

19 A. However it is important to note, I'm there, yes.

20 **Q. All right.**

21 **Can you explain to me what is meant by the  
22 statement that most transgender individuals have a  
23 gender identity that cannot be explained by atypical  
24 transgender differentiation?**

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1 A. So that is referencing, in this context at the  
2 time that this was written, the anatomy, genitals,  
3 reproductive structures.

4 **Q. And let me just --- for purposes of terminology,**  
5 **you said at the time this was written. This is about**  
6 **seven years ago, six years ago?**

7 A. 2015, yes.

8 **Q. And if you look at the page one, column one**  
9 **abstract. This paper is using the term disorders, in**  
10 **sexual development, and that DSD.**

11 **Do you see that?**

12 A. I do.

13 **Q. That was a term that you were comfortable with**  
14 **most recently?**

15 A. It was a terminology that I was using that  
16 recently, yes.

17 **Q. The point here, on page 200, column one, that we**  
18 **were just looking at is, in fact, most transgender**  
19 **individuals do not suffer from any identifiable DSD.**

20 **Is that what this is saying?**

21 A. From a physically identifiable DSD, that is what  
22 this is saying, yes.

23 **Q. Physically, genetically, hormonally,**  
24 **identifiable by any physical measurement.**

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1 in terms of their reproductive anatomy or in terms of  
2 their chromosomes. So that is how it was defined at the  
3 time.

4 **Q. Well, today, and using identifiable to mean you,**  
5 **Doctor safer, are able to identify it now, not**  
6 **hypothetically in the future, it remains true that the**  
7 **overwhelming majority of transgender individuals do not**  
8 **suffer from any current identifiable, physical**  
9 **chromosomal or hormonal irregularity.**

10 **Correct?**

11 A. I would say that right now in 2022, it would be  
12 true to say that a transgender person does not have an  
13 identifiable genital difference almost by definition or  
14 a --- or an internal reproductive organ difference  
15 almost by definition. Chromosomal I can't say, because  
16 we actually don't check. And hormonal gets even grayer  
17 than that, because it could be the case that there are  
18 hormonal exposures, for example, in utero that explain  
19 at, least some people as being transgender.

20 **Q. As you sit here today, you don't know of any**  
21 **chromosomal test that can identify an individual as**  
22 **transgender, do you?**

23 A. Is there a --- there --- as I sit here today  
24 there are no tests to identify somebody who is

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1 **Correct?**

2 ATTORNEY BLOCK: Objection to form.

3 THE WITNESS: So you have to be careful  
4 to be not too broad, and part of the reason is the line  
5 there is actually blurring. So when I'm sitting here  
6 and talking in 2022 I recognize that there is a  
7 potential for some blurring in that line. But in 2015  
8 it was certainly understood to be how you're saying it.  
9 BY ATTORNEY BROOKS:

10 **Q. Well, it remains true today, does it not, that**  
11 **the overwhelming majority of transgender individuals do**  
12 **not suffer from any identifiable atypicality**  
13 **genetically, physically or hormonally.**

14 **Correct?**

15 A. Well, that's not how I would say it, because  
16 gender identity is a biological phenomenon and so one  
17 would predict that as we identify certain correlates or  
18 even explanations, than we will have things in that  
19 space. But if we're talking about how things were  
20 defined in 2015, being transgender was defined as  
21 somebody where their gender identity was not aligned  
22 with the rest of their biology, and there was no  
23 apparent, physical variation either in terms of their  
24 anatomy or their chromosomes in terms of their genitals,

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1 transgender.

2 **Q. And that includes genetic tests?**

3 A. There's no scan and there are no blood tests and  
4 there are no genetic tests.

5 **Q. And no hormonal tests?**

6 A. That's right. There are no hormonal tests right  
7 now to identify a transgender person.

8 **Q. As you sit here today and based on your whole**  
9 **knowledge of the field, there is no biological test from**  
10 **some mental professionals, as they can do, but there is**  
11 **no biological test that will tell you in advance which**  
12 **prepubertal child who is suffering from gender dysphoria**  
13 **would persist and which would desist as they enter**  
14 **adolescence?**

15 A. So I would have to challenge how you're stating  
16 that a little bit just so that we are cleaner in terms  
17 of how we think. So we're thinking right now in terms  
18 of identifying kids who are transgender. We use various  
19 terminologies, so that --- we've have been using the  
20 term gender dysphoria we're going to be shifting to more  
21 gender incongruence, but we're trying to identify people  
22 who are transgender and who may require intervention  
23 later.

24 Recognizing further that only a subset of



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transgender people would require a medical or surgical intervention. And so if the question is can --- is there a test now in 2022 to determine in an prepubescent kid who says they're transgender or people who suspect may be transgender on whatever they're saying, no, there is no test to know that is true or not and to know if they'll think that later or not, and to know if they'll want treatment or not.

**Q. So it is your opinion that there is consensus that there is a biological basis for transgender identification, but as of 2022 you don't know with any confidence what that biological basis is.**

**Correct?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I would say that it is complicated and there may even be more --- there might be multiple explanations for people being transgender. We see that with other biological entities like diabetes, for example. So the idea that we don't know what it is, is also a little too narrow.

BY ATTORNEY BROOKS:

**Q. You don't know any one identifiable biological cause with any confidence that state within a scientific knowledge?**

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explanation for some people.

**Q. It could be, but no science has been done to prove that that is a fact, has it?**

A. So it isn't really a hypothetical, that is we do have --- we do have data that support it, but it doesn't lead us to a test.

**Q. If it is not testable, then it is a hypothesis, not a fact, isn't it, not of science.**

**Correct?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: No, that is using testing two different ways. So in a scientific study, then a hypothesis is something that you have based on a certain --- based on certain data, but then you test to see how true it might be. But when I was using the word test, I'm talking about like a blood test or something that we could actually do on a given individual to know their circumstance with regard to their gender identity.

BY ATTORNEY BROOKS:

**Q. Let me ask you to look at the paper that I've marked as Exhibit 16, Evidence Supporting the Biological Nature. Is that that which you have in front of you?**

A. I do, yes.

**Q. And on the first page you refer under the result**

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A. No. That's not quite true. We know that --- and it's not even the biology of being transgender even though that is how I just framed it. It is even one step back which is the biology of gender identity. We all have gender identity, and how is that determined and what is that biology. And we know there --- and we know then that some transgender people have that particular biology not aligned with some of their other biology.

So going back to what you just asked, that we don't know any mechanisms is not quite true. That is people that looks to be true that exposure to androgen, male hormones in utero can have some influence on some people as to their identity.

**Q. Well, if there is not yet any test that is predictive of gender identity in a prepubescent child, then as a matter of science it follows that you don't actually know any causal relationship, any biological basis, is that not true?**

A. No, that wouldn't be quite sure. We can't test for somebody deemed transgender, and we can't test gender identity with a test. But like I said, that at least in some circumstances the androgen exposure in utero, in a mother's womb, could be part of the explanation for some people. Maybe isn't all the

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**that begins by discussion of a seminal study by Meyer-Bahlburg. Do you see that? Second column, beginning of the results section.**

A. Yes.

**Q. And is it your contention that the Meyer-Bahlburg study provides evidence of a biological basis for transgender identification?**

A. What the Meyer-Bahlburg study does is it provides evidence of a biological basis for gender identity.

**Q. Well, specifically the study, the Meyer-Bahlburg study --- let me have that so we are not shooting in the dark. Exhibit 17 is a paper from 2005 from Professor Heino Meyer-Bahlburg, entitled Gender Identity Outcome in Female Raised 46, comma XY persons with penile agenesis, and it continues. It's a long document?**

ATTORNEY WILKINSON: Tab 14.

---

(Whereupon, Exhibit 17, 2005 Paper by Professor Heino Meyer-Bahlburg, was marked for identification.)

---

BY ATTORNEY BROOKS:

**Q. I believe the level of questions that I will be**

1 asking, however, are the ones that you will know off the  
2 top of your head given the importance of this study in  
3 the field. The study concerned exclusively children who  
4 are born with what's referred to as a 46 XY condition.

5 Right?

6 A. Yes.

7 Q. And that is long recognized as a DSD?

8 A. No, 46 XY is the classic male chromosome  
9 pattern.

10 Q. Yes. Pardon me. So these are individuals with  
11 typical male pattern chromosomes?

12 A. Yes.

13 Q. Who, however, for some reason have had a  
14 developmental disorder or defect affecting their  
15 genitals?

16 A. Who have had some sort of alteration or  
17 development of their genitals, exactly.

18 Q. And the study concerns the results of efforts to  
19 raise such genetically male children as female in some  
20 cases after surgical procedures to feminize them and in  
21 some cases absent surgical procedures.

22 Correct?

23 A. The study really relates to the gender identity  
24 of those where there is an attempt to raise them as

1 can be summarized as follows. One, the majority of 46  
2 XY individuals with presumably normal male prenatal  
3 hormonal milieu, comma, non-hormonal anatomic  
4 abnormalities of the genitals, comma, and female gender  
5 assignment at birth or in early childhood have not  
6 changed gender to male. Do you see that?

7 A. I do see it.

8 Q. And one thing, and I understand the  
9 qualifications that you've just described this is not  
10 recording a carefully structured study performed by  
11 Doctor Meyer-Bahlburg but rather a review of case  
12 histories.

13 Right?

14 A. Exactly.

15 Q. But his conclusion from his review of those is  
16 that the majority of genetically presumably normal male  
17 individuals who were raised female, and I believe it's  
18 fair to summarize in most cases after feminizing genital  
19 surgery, adhered to a female gender identity at least to  
20 the data we have?

21 A. Yes, so I don't know whether they actually all  
22 had surgery or not.

23 Q. They did not all have surgery.

24 A. Right or even the larger number. I don't know.

1 females.

2 Q. And the results, if I understand the study, were  
3 mixed, that is that some of the individuals who were  
4 raised as females nevertheless came to identify as male  
5 and some of the individuals who were raised as females  
6 came --- persisted in identifying as female.

7 Correct?

8 A. It is not actually as clean as you're saying it.  
9 So we should look at some of the specifics and we might  
10 need to point out to specific sentences, but this too is  
11 a survey of --- a survey of studies, to be clear, it's  
12 not its own isolated study, and then there --- in none  
13 of these studies were they systematic or, you know, I  
14 guess I will just use the word systematic in  
15 ascertaining that all of the people who were being  
16 raised female and ascertaining all of the gender  
17 identity of those people. But what they are really  
18 observing is that the numbers that they mention of the  
19 people who they were trying to raise female who had male  
20 gender identity were whatever the numbers were. I don't  
21 know if that makes sense, but you'll follow as  
22 necessary.

23 Q. If you turn to page 432 it begins under the  
24 heading discussion. It begins, quote, the main findings

1 I would have to go through.

2 Q. Fair enough.

3 A. But the --- and it was his opinion at the time  
4 he was writing this that the majority who were reared  
5 female were living as female, although we don't know  
6 their gender --- but now this is me stepping out, saying  
7 we don't know their gender identity, nobody asked. The  
8 reason why this paper is interesting is even in the  
9 circumstance where they were being so passive in how  
10 they were collecting the data, such a large fraction of  
11 these individuals were so clear in their male gender  
12 identity that they actually identified themselves  
13 against the protocols.

14 Q. And that seemed to be evidence that --- of a  
15 biologic basis of gender identity congruent with their  
16 male genetics.

17 Correct?

18 A. That --- for these people, that's right. That  
19 is with or --- with their chromosomes.

20 Q. Right.

21 A. Which you would predict. If we think about ---  
22 if we recognize --- if we think that by survey a half a  
23 percent or even a full percent of people are transgender  
24 that would mean that 99 percent of people are cisgender.

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1 And so if you take a population of people with certain  
2 chromosomes, 99 percent of them are going to be  
3 cisgender and will have a gender identity incongruent  
4 with their chromosomes.

5 **Q. The study includes no individuals who were**  
6 **raised with a gender identity inconsistent with their**  
7 **male chromosomes who came to identify or later perceived**  
8 **themselves as identifying as female.**

9 **Correct?**

10 A. Well, we don't know that because they were ---  
11 they're all XY individuals who were being raised female.  
12 And somebody who had a female gender identity who is  
13 transgender among them would never be identified as  
14 transgender in this case.

15 **Q. So my question was a little more specific. The**  
16 **study simply doesn't include any individual who had male**  
17 **chromosomes who was raised male who came to identify as**  
18 **female?**

19 A. That's correct. All of these people who are XY  
20 chromosome people raised female.

21 **Q. And you would agree with me, would you not, the**  
22 **study provides some evidence that external forces such**  
23 **as feminizing surgery or how their parents treat the**  
24 **child can have some influence on the formation of gender**

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1 **identity?**

2 A. I can't say that because the study really  
3 doesn't go there. The study is only passive observation  
4 and all --- the only thing I would say with some  
5 confidence is that some fraction of these individuals  
6 who are so clear in their gender identity that despite  
7 nobody even looking for that sort of thing, because that  
8 wasn't even a consideration when these --- when these  
9 cases occurred, they --- the individuals spontaneously  
10 announced to the authorities around them, parents and  
11 doctors, that they were wrong, that the parents and  
12 doctors were wrong.

13 **Q. And that, in your view, provides at least some**  
14 **evidence of a genetic basis for gender identity**  
15 **congruent with chromosomal sex?**

16 ATTORNEY BLOCK: Objection to form.

17 THE WITNESS: No. It provides some  
18 evidence of a biological basis for gender identity that  
19 can't be manipulated externally.

20 BY ATTORNEY BROOKS:

21 **Q. Well, considering that the study included no**  
22 **examples of any individual who adopted a transgender**  
23 **identity inconsistent with how they were raised, the**  
24 **study simply can't provide any information about**

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1 **biologic basis of transgender identification, can it?**

2 A. Wait. I think say that again.

3 **Q. The study includes no individuals who adopted a**  
4 **gender identity, a transgender identity apart from**  
5 **social transition and, therefore, can provide no**  
6 **information one way or the other about whether there is**  
7 **or is not a biologic basis for transgender**  
8 **identification?**

9 A. So not quite. So the --- because remember the  
10 point is that gender identity, period, universally, has  
11 a biological basis. It's not that we --- and to be  
12 clear, I don't even know that we won't find and some  
13 people even wonder if we will find a gene that  
14 associates a gene with transgender, per se. But I'm not  
15 even saying that. If there's --- I'm only saying that  
16 we will find let's say genes associated with gender  
17 identity and not everybody will have them aligned with  
18 the rest of their biology. So I just want to preface  
19 with that.

20 And in this particular review, they're taking  
21 people who have XY chromosomes exclusively. So  
22 therefore, if one --- if a certain fraction of them were  
23 to have female gender identity despite assuming  
24 different development they would have had male --- they

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1 would have had other male biology, those are the people  
2 we would have categorized as transgender using current  
3 definitions. And those individuals would not have been  
4 apparent in this study they were being raised female  
5 anyway.

6 **Q. And my point was that, therefore, that this**  
7 **study can't provide any information about whether there**  
8 **is or isn't a biological basis for transgender**  
9 **identification?**

10 A. So yes. I guess how you are framing that is  
11 where I'm pushing back. So the point of this study is  
12 as evidence of there being a biological basis of gender  
13 identity period, having nothing --- not necessarily for  
14 being transgender. In fact, I don't even know if there  
15 --- yeah, I don't even know if that would be the model.  
16 The model would be somebody who has a certain gender  
17 identity, a certain other biology, and then that  
18 combination is what we are calling transgender.

19 **Q. You also referenced a paper by Doctor Reiner.**  
20 **And let me have that.**

21 ATTORNEY BROOKS: And I will mark that as  
22 Exhibit 18, 2004 Discordant Sexual in Some Genetic Males  
23 With Cloacal Exstrophy Assigned to Female Sex at Birth.

24 ATTORNEY WILKINSON: Tab 71.

1 ---  
2 (Whereupon, Exhibit 18, Paper by Doctor  
3 Reiner, was marked for identification.)  
4 ---

5 BY ATTORNEY BROOKS:

6 **Q. And Dr. Safer, you are well familiar with this**  
7 **paper.**

8 **Am I correct?**

9 A. I am, yes.

10 **Q. And this is the only other paper that you cite**  
11 **for the assertion that gender identity has a biological**  
12 **basis.**

13 **Am I correct?**

14 A. No, there are a range of categories of papers,  
15 but these are two of my favorite papers in the first  
16 category, which is the category of attempting to  
17 manipulate gender identity externally.

18 **Q. Dr. Bahlburg in his paper, on page 433 of**  
19 **Exhibit 14, in column one ---.**

20 A. Yes. Let me get there.

21 **Q. Yes. 433, column one.**

22 A. 433, column one.

23 **Q. He says about two inches off the bottom,**  
24 **referring to the Reiner and Gearhart paper of 2004,**

1 A. No.

2 **Q. So let's summarize this study if I may. I'm**  
3 **turning to page 334.**

4 A. And extending that too, part of his frustration  
5 wouldn't be my frustration because I am not looking for  
6 those particular endpoints, that is for my purposes for  
7 determining whether gender identity is a biological  
8 basis Reiner and Gearhart's paper is actually quite  
9 strong.

10 **Q. Let's look at the first page in the summary up**  
11 **front. It refers to this paper dealt with 16 --- under**  
12 **methods, 16 genetic males.**

13 **Correct?**

14 A. Yes.

15 **Q. And these were all males who suffered from ---**  
16 **uses the word in the second line of the background as**  
17 **severe developmental disorders affecting their genitals.**

18 **Correct?**

19 A. That's how it is phrased here. Where am I  
20 seeing that?

21 **Q. The second line of the background says severe.**

22 A. Severe phallic inadequacy, yes, I see that.

23 **Q. Which is to say not --- absent or severely**  
24 **disformed penis?**

1 **which I believe is this paper, he says, quote, it has**  
2 **serious methodological flaws. Do you agree with that**  
3 **statement?**

4 A. Let's read what he is criticizing. All these  
5 papers have their weaknesses. All right. So the  
6 remainder of that --- so the remainder of the paragraph  
7 is --- details the complaints for Doctor Meyer-Bahlburg,  
8 where his --- which I focus as a social science  
9 researcher that they didn't do various assessments that  
10 would make it --- that would make standard people doing  
11 some of this research able to replicate some of the  
12 items in the paper. And I will --- so while Doctor  
13 Meyer-Bahlburg may be frustrated and be complaining  
14 about that, he is not actually attacking the veracity of  
15 their results.

16 **Q. Well, the point was serious methodological flaws**  
17 **is you are not really able to evaluate the veracity of**  
18 **the results.**

19 **Correct?**

20 A. Not necessarily.

21 **Q. Do you agree with Doctor Meyer-Bahlburg's**  
22 **evaluation that the methodology of the study reported by**  
23 **Reiner and Gearhart suffers from serious methodological**  
24 **flaws?**

1 A. That's what that means, yes.

2 **Q. Okay.**

3 **But these are individuals who are genetically**  
4 **male, and more than that, on page 334, column two,**  
5 **two-thirds of the way down it says the testes were**  
6 **histologically normal in all 14 when examined?**

7 A. I'm on column two.

8 **Q. It is column two.**

9 A. I apologize.

10 **Q. You can kind of see where my finger is pointing**  
11 **here.**

12 A. And this is under ---.

13 **Q. Under methods and the paragraph that begins**  
14 **parents to be educated?**

15 A. Testes were histologically normal in all 14.  
16 I'm there, yes.

17 **Q. So we had individuals who were genetically male**  
18 **that had normal testes and had severe deprivation of**  
19 **their penis or it was absent?**

20 A. Yes.

21 **Q. And what was done to these 14 subjects, looking**  
22 **just above that, is that they were assigned a female sex**  
23 **surgically by means of orchiectomy and construction of**  
24 **vulva.**

1 **Right?**

2 A. Yes.

3 **Q. And orchiectomy is another medical term for what**  
4 **the layman thinks of as castration?**

5 A. As removing the testes.

6 **Q. And construction of the vulvi is creating a ---**  
7 **I'm not sure what the right term is, a pseudo vagina?**

8 A. It wouldn't be a pseudo vagina, but creating a  
9 vagina.

10 **Q. It says that --- just immediately following the**  
11 **description of the surgery 14 of these 16 --- looking**  
12 **back at the results paragraph and the abstract, 14 of**  
13 **these 16 were assigned female but later declared**  
14 **themselves male despite the surgery, despite being**  
15 **raised as female.**

16 **Right?**

17 A. Right, 8 of the 14 who were assigned female.

18 **Q. I'm sorry, I misread that. Thank you. Eight of**  
19 **the 14 who were assigned female nevertheless declared**  
20 **themselves male at some stage?**

21 A. That's correct.

22 **Q. And the two who had been raised as males, even**  
23 **though they suffered the same type of phallic**  
24 **developmental defect, remained identifying as males.**

1 **Correct?**

2 A. Yes.

3 **Q. There was an --- whatever assignment was made,**  
4 **this was made to infants. It wasn't made or based on**  
5 **any choice or reported sense on the part of the child?**

6 A. That's exactly right, yes.

7 **Q. So several of these individuals, specifically**  
8 **six, who were assigned female at least throughout the**  
9 **period identified by this study adhered to a female ---**  
10 **living out the female gender identity?**

11 A. Actually it was five because one of the children  
12 refused to have contact with the surgeons when some of  
13 these conversations began to take place.

14 **Q. So we know that five --- we don't know what that**  
15 **person was thinking, feeling or identifying --- but we**  
16 **know that five ---?**

17 A. They were angry.

18 **Q. They were angry. Whichever that came out, I'd**  
19 **be angry, so ---**

20 A. Yes.

21 **Q. --- so 5 of the 14 subjects who were assigned**  
22 **female and surgically transitioned and socially**  
23 **transitioned continued to at least physically identify**  
24 **as female?**

1 A. As of when they wrote the paper they were still  
2 identifying as female as far as I remember. That's  
3 right.

4 **Q. And it would be your position that visibly**  
5 **identifying as female doesn't necessarily mean that they**  
6 **were generally transgender?**

7 A. That --- we don't know that because that wasn't  
8 asked.

9 **Q. Is it your view that if you had these children**  
10 **who were surgically transitioned, socially transitioned**  
11 **visibly identifying as female, that if you had simply**  
12 **asked them you would have found out the undoubted truth**  
13 **about their gender identity?**

14 ATTORNEY BLOCK: Objection to form.

15 THE WITNESS: So it is true that as  
16 people develop and assuming that there are good language  
17 skills and that there aren't other developmental, mental  
18 developmental reasons or other mental health reasons why  
19 people would not be clear, that people are able to  
20 articulate their gender identity. Certainly adults do  
21 so apparently quite reliably and older teenagers the  
22 same, so depending on age. But yes, there would be a  
23 point in time when you could simply ascertain that by  
24 asking.

1 BY ATTORNEY BROOKS:

2 **Q. Dr. Safer is that fundamentally a medical**  
3 **question or a psychology/mental health question? The**  
4 **question of the reliability of a patient's self report?**

5 A. I don't know that I separate it that way. I say  
6 that based on the data we slowly develop overtime of  
7 transgender people where we see that any absence of  
8 other confounding items along the lines that I said,  
9 people at a certain stage in maturity who tell you a  
10 certain thing about their gender identity are consistent  
11 in that regard.

12 **Q. This study, the Reiner Gearhart study,**  
13 **Exhibit 18, concerns --- looks at the effect of trying**  
14 **to raise individuals in a gender identity discordant**  
15 **with their chromosomal sex.**

16 **Correct?**

17 A. It is discordant with quite a number of things,  
18 but yes, chromosomal is one of your hard data points.

19 **Q. This study does not look at the question about**  
20 **whether and when or how any sort of intervention might**  
21 **encourage development of a gender identity consistent**  
22 **with one's genetics sex; does it? It simply does not**  
23 **look at this issue?**

24 A. Say that again, sorry.



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**Q. This study does not address the question of whether or how or at what developmental stage therapeutic interventions might encourage the development of a gender identity consistent with one's chromosomal sex?**

A. The study is --- the way I'm interpreting the study is it's looking at our inability to manipulate gender identity. And it's just that. And I'm a little fuzzy on the rest of what you're asking me.

**Q. Well, the study looks at efforts to manipulate gender identity away from chromosomal from the identity normally associated with one's chromosomal sex. In this case the male sex.**

**Right?**

A. It does.

**Q. This study simply does not look at efforts to manipulate gender identity towards alignment with the identity normally associated with a subject's chromosomal sex?**

A. I think I'm following you now. So you're suggesting that if we took a transgender person and tried to manipulate their gender identity to align with some of the rest of their biology?

**Q. I'm not suggesting that I'm simply saying this**

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**study.**

A. That particular instance. Yes.

ATTORNEY BROOKS: 15. It is one of the previous marked ones, if that matters. All right.

I will not show you that document. Let me ask the court reporter how many --- how much time we have left on the clock.

COURT REPORTER: I have 5:52, five hours and 52 minutes.

ATTORNEY TRYON: I didn't hear that. Could you repeat that?

ATTORNEY BROOKS: We've got an hour and eight minutes according to the clock of the court reporter here, and I believe that our friend in the ether is calculating separately.

VIDEOGRAPHER: Correct. And it sounds like the same. I have to do the math.

ATTORNEY BROOKS: Okay.

BY ATTORNEY TRYON:

**Q. Are you familiar Dr. Safer with a paper recently published by Lisa Littman of Brown University looking at the surveying 100 teens or young adults --- actually surveying a hundred individuals who report having de-transitioned and gone from identifying as transgender**

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**to identifying in a manner consistent with their genetic sex?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So I'm aware of Dr. Littman having written a second paper. But I'm not facile, I guess.

BY ATTORNEY BROOKS:

**Q. You haven't read that paper?**

A. I have not read the paper. I probably did read it, but I would not be able to be quizzed on it.

**Q. Then I won't quiz you on it. I always tell witnesses I don't know is the easiest way out of a line of questioning.**

**Are you --- let me ask you this, does your clinic have any procedure in place to track outcomes on patients on whom you perform gender conforming surgery long term?**

A. We're actually in the --- we have a couple of processes, so I guess the short answers are yes and we're going to be more rigorous going forward.

**Q. Do you have any knowledge as to how many patients on whom your clinic has performed surgery have after that surgery committed suicide?**

A. I don't off the top of my head know that.

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**Q. Do you believe that your clinic possesses reasonably complete information on that question?**

A. I actually don't think our information is sufficiently complete currently, and that actually is an area where we're going to develop more vigorously, because I would actually like to know that.

**Q. Do you know whether any patients on whom your clinic has performed surgery has subsequently sought to de-transition and take on or revert to, whichever way you want to see it, a gender identity that's aligned with their chromosomal sex?**

A. So it's a complicated question. And actually I just want to go back to the first part where you were talking about suicide.

To be clear, the rigor I'm talking about is not suicide focused, because I actually am not anticipating that that is --- that that is happening or is happening more than with being seen in a general population, but for all encompassing that we do definitely need that.

But back to your current question ---.

**Q. Let me jump back to suicide for a moment. Are you aware of studies coming out of DeVry University and Amsterdam suggesting that post-surgical transgender populations continues to experience elevated rates of**

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1 **complete suicides compared to controlled populations?**

2 ATTORNEY BLOCK: Objection to form.

3 THE WITNESS: So I'm aware that  
4 transgender people have more mental health morbidity  
5 than other populations. Once corrections are made for  
6 other confounding factors I don't know that we would  
7 have --- that we're very clear yet on those data  
8 including ---.

9 BY ATTORNEY BROOKS:

10 **Q. When I refer to a published study coming out of**  
11 **DeVry University of Amsterdam showing high rates of**  
12 **suicidality in postsurgical transgender patients, you**  
13 **believe you're familiar with that literature?**

14 A. I guess it would fall in the same category as  
15 Littman's second paper.

16 **Q. Okay.**

17 A. Where I'm familiar with the fact that they're  
18 doing surveys and I'm familiar with the broad outlines,  
19 but could not ---

20 **Q. Okay.**

21 A. --- comment on specific studies without it being  
22 in front of me.

23 **Q. And have any patients on whom your clinic has**  
24 **performed surgery subsequently decided to de-transition**

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1 **have to stop, even though I have so many more**  
2 **interesting questions.**

3 ATTORNEY BROOKS: So Dave, I will stop  
4 and I will turn the witness over to you.

5 ATTORNEY BLOCK: Could we take a break  
6 now?

7 ATTORNEY BROOKS: Of course, it is a good  
8 time for sure.

9 ATTORNEY BLOCK: Thanks. Can we go off  
10 the record?

11 VIDEOGRAPHER: The time is 5:03 p.m.  
12 Eastern Standard Time.

13 OFF VIDEOTAPE

14 ---

15 (WHEREUPON, A SHORT BREAK WAS TAKEN.)

16 ---

17 ON VIDEOTAPE

18 VIDEOGRAPHER: We are back on the record.  
19 The current time reads 5:25 p.m. Eastern standard Time.

20 ATTORNEY BLOCK: This is Josh Block on  
21 behalf of the Plaintiff. We have conferred off the  
22 record, including with counsel from Mount Sinai, and  
23 Doctor Safer can answer the two questions he declined to  
24 answer before provided that we mark those portions of

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1 **and assume a gender identity aligned with their**  
2 **chromosomal sex?**

3 A. I don't --- I don't know. There is absolutely  
4 the case that there are people who stop their treatment  
5 at different levels, so it has definitely been my  
6 experience that I have patients who I've put on hormone  
7 treatments who have stopped those hormone treatments.  
8 And there are also, among our patients --- I don't know  
9 if any of the patients where we performed the original  
10 surgery they actually were opting for a different  
11 surgery, but we definitely have patients who have come  
12 to us, who had a surgery done elsewhere who were looking  
13 for a degree basically what you're calling a reversal,  
14 to the degree that that's possible. So that such a  
15 thing does exist. So the point about saying that they  
16 have a different gender identity, that would --- that is  
17 not typically how the patients come saying it. They  
18 don't say, oh, it turns out my gender identity is not  
19 that. It's more often society is not treating me well,  
20 this isn't working out. That's the more --- that's the  
21 --- that's the typical scenario. I mean, yes, we  
22 definitely have seen that circumstance.

23 **Q. Dave Tryon, who is with us remotely as Counsel**  
24 **for West Virginia, I have promised him an hour, so I**

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1 the deposition transcript confidential, and all counsel  
2 for Defendants have agreed with that.

3 ATTORNEY BROOKS: And this is Roger  
4 Brooks, and yes, I confirm that all counsel for  
5 Defendants have agreed to that.  
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1 ---  
 2 EXAMINATION  
 3 ---  
 4 BY ATTORNEY TRYON:  
 5 Q. Hello, Dr. Safer. Thanks for your time today.  
 6 So I am David Tryon. I represent the State of Virginia.  
 7 I'm appointed by the Attorney General's Office. And I  
 8 wanted to start out by looking at --- asking you to take  
 9 a look at your Rebuttal Report. I don't recall what  
 10 exhibit number that is. If you could tell us what it is  
 11 marked?  
 12 ATTORNEY WILKINSON: Exhibit 2.  
 13 ATTORNEY TRYON: Exhibit 2.  
 14 ATTORNEY WILKINSON: Tab 51.  
 15 THE WITNESS: I have that in front of me.  
 16 BY ATTORNEY TRYON:  
 17 Q. Could you take a look at paragraph six, please?  
 18 Do you have that in front of you?  
 19 A. Yes.  
 20 Q. Great. Now, in here it says in the second or  
 21 maybe third sentence as reflected in the same source  
 22 cited by Doctor Brown dimorphous sexual characteristics  
 23 in men and women are produced by a combination of genes,  
 24 prenatal androgen exposure to sex hormones. And I'd

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1 **like to focus on that particular clause. Can you**  
 2 **explain what prenatal androgen exposure to sex hormones**  
 3 **is?**

4 A. Yes. That references --- I guess to me it's  
 5 more or less exactly what it says, which is that the  
 6 developing fetus is exposed to various hormones and  
 7 other factors and androgen is specifically the male ---  
 8 is typically what we consider to be the male sex  
 9 hormone, although everyone has some. And then prenatal  
 10 just means and in utero or in the mother's womb.

11 **Q. So androgen for males is testosterone.**

12 **Is that right?**

13 A. Androgen in general is that category of hormones  
 14 that we think of as typically male, even though, like I  
 15 said, we all have them. And one of the androgens is  
 16 testosterone. And with adults it is the one that we are  
 17 talking about most of the time, of course.

18 **Q. Okay.**

19 **So as I understand it, your suggestion is that**  
 20 **that prenatal exposure to testosterone can have an**  
 21 **impact even after birth.**

22 **Is that right?**

23 ATTORNEY BLOCK: Objection to form.

24 THE WITNESS: So all factors --- well, I

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1 genitalia so that all babies born with what --- with a  
 2 penis and with a urethra that is the part for which you  
 3 urinate, that's up inside the penis and having the  
 4 gonads, which would typically be testes in the scrotum,  
 5 all of that happens in response to testosterone.

6 BY ATTORNEY TRYON:

7 **Q. And then that also triggers a question I had.**  
 8 **You had previously said in your original report a**  
 9 **person's genetic makeup and internal and external**  
 10 **reproductive anatomy are not useful indicators of**  
 11 **athletic performance and have not been used in a league**  
 12 **competition for decades.**

13 **My question on that is, when you say a person's**  
 14 **genetic makeup doesn't their genetic makeup trigger**  
 15 **whether or not they are going to --- a person's genetic**  
 16 **makeup will determine whether or not they're a boy or a**  
 17 **girl, and therefore if they're a boy that would trigger**  
 18 **their generation of more testosterone than a girl.**

19 **Is that a fair statement?**

20 ATTORNEY BLOCK: Objection to form.

21 THE WITNESS: Yeah, no, that's --- so I  
 22 think I need to walk that back a little bit. Why don't  
 23 we --- can we do it like piece by piece or have you  
 24 restate parts?

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1 don't want to overstate it, but factors that occur to  
 2 which a fetus is exposed in the womb have impact on the  
 3 development of that fetus, of that person when they are  
 4 born, and so androgens, including testosterone, would be  
 5 part of that, so yes.

6 BY ATTORNEY TRYON:

7 **Q. So are you aware of studies addressing the**  
 8 **impact of prenatal exposure to testosterone as it**  
 9 **impacts people after their birth?**

10 ATTORNEY BLOCK: Objection to form.

11 THE WITNESS: I think I need you to be  
 12 specific about which studies.

13 BY ATTORNEY TRYON:

14 **Q. Are you aware of any study that addresses the**  
 15 **effect of prenatal testosterone upon boys after they're**  
 16 **born?**

17 ATTORNEY BLOCK: Objection to form.

18 THE WITNESS: So the ---.

19 BY ATTORNEY TRYON:

20 **Q. Or men?**

21 A. So I can --- I guess --- I have to --- kind of  
 22 two answers. Exposure to prenatal androgens, kind of  
 23 generally because it is not always, testosterone explain  
 24 the development of what we consider to be typically male

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1 BY ATTORNEY TRYON:

2 **Q. I will restate it. So when you say a person's**  
 3 **genetic makeup, what does that mean?**

4 A. Mostly in this context I'm referencing their  
 5 chromosomes that's the specific that in the further past  
 6 was actually being used to identify people which we no  
 7 longer do. It's not sufficiently reliable.

8 **Q. Does the --- you have an X Y chromosome that is**  
 9 **typically considered to mean that you're a male.**

10 **Correct?**

11 A. The XY chromosome is typically considered to  
 12 mean that you're a male, correct.

13 **Q. And that would mean that you would be generating**  
 14 **more testosterone than if you have an X chromosome.**

15 **Right?**

16 ATTORNEY BLOCK: Objection to form.

17 THE WITNESS: So the presence alone of  
 18 that XY pattern is insufficient to know with certainty  
 19 that you're producing more testosterone and that is part  
 20 of the point of I'm saying it is that biological sex is  
 21 more complex, and you could have the gene for the testes  
 22 that produce testosterone elsewhere, and then you  
 23 wouldn't have that pattern and you still would be  
 24 producing the testosterone or vice versa.

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1 BY ATTORNEY TRYON:

2 **Q. Okay.**

3 Well, let's go back to prenatal testosterone.  
4 So you're not --- if I understood what you're saying  
5 before, you're not aware of any studies that show  
6 whether or not prenatal testosterone would have --- let  
7 me just start that over again.

8 Are you aware of any studies that address  
9 whether prenatal testosterone has impact on sporting, on  
10 athletics in children after birth?

11 A. Correct. That would be right to say that there  
12 are no studies of which I'm aware that can associate  
13 prenatal testosterone with athleticism. And I don't  
14 know what levels we're even talking. Like an adult  
15 level? What's your question there?

16 **Q. My next question is, have you heard of the**  
17 **Journal of Sports Science and Medicine?**

18 A. I guess you would have to show it to me.

19 **Q. Okay.**

20 Have you ever heard the name Jim Goldby or  
21 Jennifer Mays?

22 A. No.

23 ATTORNEY TRYON: Jake, could you bring up  
24 the Exhibit that I sent to you today, which is the

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1 **conclusion on page 449?**

2 A. So can we move the pictures because they're  
3 blocking.

4 **Q. Can you see it?**

5 A. We're getting there. And then is there a way to  
6 move that? Oh perfect. Yes.

7 **Q. Okay.**

8 The conclusion says, current paper provides  
9 initial support from an association between prenatal  
10 testosterone levels and mental toughness, optimism, goal  
11 orientations, coping strategies and hostility, period.  
12 Findings tentatively suggest that the mentioned  
13 psychological characteristics may be partially  
14 biologically predetermined.

15 **Do you see that?**

16 A. I do see it, yes.

17 **Q. Do you have any reason to believe whether that's**  
18 **true or not true?**

19 ATTORNEY BLOCK: Objection. I just  
20 object to asking him about a conclusion when he just has  
21 a little snippet of that and hasn't reviewed the  
22 article. And I'm not even sure if it has been cited in  
23 the other expert reports.

24 THE WITNESS: I certainly can ---.

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1 General Sports Science and Medicine?

2 ATTORNEY WILKINSON: Do you see anything?

3 THE WITNESS: I don't see anything. Oh,  
4 that's too small. Okay. That's okay.

5 ATTORNEY TRYON: Okay.

6 And this will be Exhibit --- what Exhibit  
7 are we on Jake, do you know?

8 VIDEOGRAPHER: This is 19.

9 ---

10 (Whereupon, Exhibit 19, Article, was  
11 marked for identification.)

12 ---

13 ATTORNEY TRYON: I'm sorry, 19?

14 VIDEOGRAPHER: Correct.

15 BY ATTORNEY TRYON:

16 **Q. Okay.**

17 I take it from your earlier answers, you  
18 probably never seen it before.

19 **Is that right?**

20 A. I certainly don't recall. I don't want to state  
21 definitively I've never seen it either, but it's  
22 certainly not a paper that I'm going to know off the top  
23 of my head.

24 **Q. Well, let me ask you to take a look at the**

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1 BY ATTORNEY TRYON:

2 **Q. Go ahead.**

3 A. I certainly cannot say if that conclusion has  
4 any logic to it without knowing the study.

5 **Q. Understood. Is it possible since this**  
6 **particular study suggests there is an impact on adults**  
7 **by prenatal testosterone? Is it that prenatal**  
8 **testosterone could also have a DSD explanation for why**  
9 **should boys at 11 years old have more athletic ability**  
10 **than girls?**

11 ATTORNEY BLOCK: Objection to form.

12 THE WITNESS: So speaking --- yeah,  
13 speaking as an expert, I can't give you an expert  
14 comment there without seeing their study.

15 BY ATTORNEY TRYON:

16 **Q. Okay.**

17 **So you just can't say one way or the other.**  
18 **Correct?**

19 ATTORNEY BLOCK: Objection to form.

20 THE WITNESS: I mostly wouldn't want to  
21 comment on their study. I will only make the  
22 observation that the data of which I am aware do not  
23 show differences for prepubertal children, if that was  
24 part of your question.



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1 BY ATTORNEY TRYON:

2 **Q. And so the performance data that Dr. Handelsman**  
 3 **pointed out showing that there are some damages given**  
 4 **before puberty, you reject those?**

5 ATTORNEY BLOCK: Objection to form.

6 THE WITNESS: So those broad  
 7 cross-sectional studies don't get at input, whether they  
 8 are referencing biological explanations versus societal  
 9 explanations.

10 BY ATTORNEY TRYON:

11 **Q. Okay.**

12 **Whether it's societal or biologic explanations,**  
 13 **Handelsman still demonstrated that there is an advantage**  
 14 **for pre-pubescent males over females in athletics.**

15 **Right?**

16 ATTORNEY BLOCK: Objection to form.

17 THE WITNESS: No, neither Dr. Handelsman  
 18 in his paper --- he doesn't actually say that. And if  
 19 you --- I think we looked previously at one of the  
 20 figures where specifically the range of outcomes, if you  
 21 were to repeat the study, included the girls doing  
 22 better than the boys.

23 BY ATTORNEY TRYON:

24 **Q. Well, that was only one of them. That was not**

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1 the medical community right now. The detailed  
 2 explanations for the specific biology are not known if  
 3 that's where you're going.

4 BY ATTORNEY TRYON:

5 **Q. Assuming there is actually a biological**  
 6 **component, as you say, to gender identity, that says**  
 7 **nothing about whether a biological male identifying as a**  
 8 **female should, as a public policy matter, be allowed to**  
 9 **participate on a girls athletic team in high school and**  
 10 **middle school.**

11 **Right?**

12 ATTORNEY BLOCK: Objection to form.

13 THE WITNESS: So the way that I would say  
 14 that is even if we recognize that there is a biological  
 15 explanation for gender identity, that does not --- well,  
 16 I don't know that then I can go on to make an expert  
 17 statement, honestly, because that gets outside my  
 18 purview and in terms of --- my lane is just simply to  
 19 say that.

20 BY ATTORNEY TRYON:

21 **Q. Got it. Can you look at your rebuttal report**  
 22 **and look at page two?**

23 A. I have my rebuttal in front of me and I'm on  
 24 page two.

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1 **it. That was one of the charts. The other chart showed**  
 2 **that there was an advantage, right?**

3 ATTORNEY BLOCK: Objection to form.

4 THE WITNESS: The other --- yeah, let me  
 5 think with that one. Right. We are not getting into  
 6 what the causality is, then the other charts did show  
 7 the boys doing better. And again, the caveat remains  
 8 what is not --- what is not demonstrated there is that  
 9 there is --- that that is a biological thing versus  
 10 simply the very longstanding societal and cultural  
 11 environments.

12 BY ATTORNEY TRYON:

13 **Q. And you've contended that there's a biological**  
 14 **component to gender identity.**

15 **Correct?**

16 A. Yes.

17 **Q. Which we have not been able to identify in this**  
 18 **deposition.**

19 **Correct?**

20 ATTORNEY BLOCK: Objection to form.

21 THE WITNESS: So it is not quite --- well  
 22 I actually don't know what's been identified in the  
 23 deposition. The data are included in my --- in the  
 24 papers that I referenced that are what are convincing to

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1 **Q. Paragraph 4B?**

2 A. I have that in front of me.

3 **Q. You say --- great. You say circulating**  
 4 **testosterone is the primary known biological driver of**  
 5 **average differences in athletic performance. Do you see**  
 6 **that?**

7 A. I do.

8 **Q. You say it is primary so what are the other**  
 9 **biological drivers of average differences in athletic**  
 10 **performance?**

11 ATTORNEY BLOCK: Objection to form.

12 THE WITNESS: So when I --- so we're  
 13 talking about circulating testosterone --- let me just  
 14 look at this. Right. The truth is, is that it may ---  
 15 that the only candidates that we have so far are  
 16 testosterone at puberty and testosterone in the moment.

17 BY ATTORNEY TRYON:

18 **Q. So it's --- according to you, it's testosterone**  
 19 **at puberty and circulating testosterone are the only**  
 20 **biological drivers of average differences in athletic**  
 21 **performance.**

22 **Is that right?**

23 A. So excuse me. I'm actually --- so this is the  
 24 president of the hospital.

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1 ATTORNEY BLOCK: I'm sorry. Can we go  
2 off the record for a minute and take a break. The  
3 president of the hospital is returning his previous  
4 call.

5 VIDEOGRAPHER: Going off the record. The  
6 current time is 5:48 Eastern Standard Time.  
7 OFF VIDEOTAPE

8 ---  
9 (WHEREUPON, A SHORT BREAK WAS TAKEN.)

10 ---  
11 ON VIDEOTAPE

12 VIDEOGRAPHER: Back on the record. The  
13 current time reads 5:54 p.m. Eastern Standard Time.  
14 BY ATTORNEY TRYON:

15 **Q. My last question was according --- according to**  
16 **you, testosterone at puberty and circulating**  
17 **testosterone are the only biological drivers of average**  
18 **differences in athletic performance.**

19 **Is that right?**

20 A. Right, they are the only ones that are known.

21 **Q. And in paragraph 4C, looking on page three ---**  
22 **let's move over to page three, at the top of the page,**  
23 **your statement is there is no basis to expect that**  
24 **transgender girls who receive puberty delaying**

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1 **components of the educational process, institutions may**  
2 **adopt policies designed to emphasize inclusion and to**  
3 **provide the most athletic opportunities to the greatest**  
4 **number of people. You see that.**

5 **Right?**

6 A. I do.

7 **Q. So these policies you referred to are designed**  
8 **to emphasize inclusion and to provide the most athletic**  
9 **opportunities to the greatest number of people, what's**  
10 **the source of that policy? Did you come up with that or**  
11 **did you see it someplace else?**

12 ATTORNEY BLOCK: Objection to the form.

13 THE WITNESS: So the question is how am I  
14 aware? Yeah --- I apologize. You can hear that I'm  
15 confused on your question.

16 BY ATTORNEY TRYON:

17 **Q. I'll try and do better. You said intuitions may**  
18 **adopt policies designed to emphasize inclusion and to**  
19 **provide the most athletic opportunities to embrace a**  
20 **number of people. And those policies that you're saying**  
21 **there, is that a policy that you read about somewhere or**  
22 **something you are just suggesting? What's the source of**  
23 **that?**

24 ATTORNEY BLOCK: Objection to form.

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1 **medication followed by gender affirming hormones would**  
2 **have an athletic advantage. There's a comma. But if we**  
3 **just put a period there, is that your opinion?**

4 A. That is correct. Yes, that is my opinion.

5 **Q. Let me ask you the converse. You say there is**  
6 **no basis to expect that transgender girls who receive**  
7 **puberty delaying medication followed by gender affirming**  
8 **hormones would not have an athletic advantage, period.**  
9 **Would you agree with that statement?**

10 A. No.

11 **Q. Do you have any --- excuse me, any performance**  
12 **data from an actual athletic event that support your**  
13 **opinion?**

14 A. I do not have any data from an actual athletic  
15 performance study for that. No, I do not in that  
16 context, in that specific instance.

17 **Q. Let me ask you to look at your report. Turn to**  
18 **paragraph 45.**

19 A. So my report, paragraph 45. All right. I have  
20 that in front of me.

21 **Q. Great. Finally, unlike elite international**  
22 **competition, schools and colleges often provide athletic**  
23 **competition as part of a broader educational mission.**  
24 **In that context, when scholastic athletics are**

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1 THE WITNESS: So an operative word in  
2 this is may adopt policies, so this isn't referencing a  
3 specific policy that I would give you right this moment,  
4 if that's what you are asking.

5 BY ATTORNEY TRYON:

6 **Q. So right, just aside from education --- this**  
7 **whole paragraph is talking about education, but you're**  
8 **not an expert on education or teaching methodology, are**  
9 **you?**

10 A. I certainly am not.

11 **Q. And you don't have any degrees in education or**  
12 **training in teaching methodology, do you?**

13 A. I do not.

14 **Q. And you have no degrees or training in pedagogy?**

15 A. I have no degree in pedagogy. I will be careful  
16 how absolutely I do not, because that's not my ---  
17 that's not where I am representing myself to be an  
18 expert. I am involved in some education, but at the  
19 scholastic level not, so let's just say no.

20 **Q. And you have no expertise as to whether sports**  
21 **or how sports are used as part of educational systems.**

22 **Right.**

23 A. Correct. That is not the expertise. The how  
24 and my decisions among this are not my expertise.

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**Q. Do you have any idea how many schools actually have sports programs?**

ATTORNEY BLOCK: Objection. I couldn't hear the full question. You cut out.  
BY ATTORNEY TRYON:

**Q. Sorry. Do you have any idea how many schools have sports programs?**

A. I could not give you a number, no.

**Q. Are you aware that some colleges do not have athletic programs?**

A. I guess I'm vaguely aware. If you're asking me as an expert than I wouldn't comment on that as an expert, but as a human in society I certainly am aware that that is a thing.

**Q. Okay.**

**And do you have any idea what percentage of kids are in athletic programs in schools versus those that are not that are still students?**

A. No, I would not be your source for that data point.

**Q. So when you are expressing this opinion in paragraph 45 that's not an expert opinion there, is it?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So right, I guess it's a

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expressing an opinion in paragraph 45, expert or otherwise. I'm simply stating the background situation.  
BY ATTORNEY TRYON:

**Q. Okay.**

**But --- okay. I would ask you to turn to paragraph 37 of your report.**

A. All right.

I have that in front of me.

**Q. This is talking about the International Olympics Committee. Right? Let me move back to paragraphs 35 and 36.**

A. Yes, this is the International Olympic Committee. This relates to the International Olympic Committee.

**Q. So this 2021 framework, do you believe that you understand this framework?**

A. I think you'll have to ask more specific questions because I might understand parts and I might have questions about parts.

**Q. Very good. First of all, it says the 2021 framework further provides that, quote, any restrictions arising from eligibility criteria should be based on robust and peer-reviewed research that, A, demonstrates a consistent, unfair, disproportionate competitive**

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bit confusing here, because it's not my expert opinion that --- well, I'm certainly aware as an individual that this is a priority and when I sit on --- when I sit on committees where we discuss relative priorities, there are experts present who discuss these priorities. But if I'm speaking to you as an expert, then I --- then I can't be the representative expert in that space.

BY ATTORNEY TRYON:

**Q. Right. Well, I'm just asking, in paragraph 45, given your lack of expertise and education, you are not giving an expert opinion in paragraph 45.**

**Is that a correct statement?**

ATTORNEY BLOCK: Objection, asked and answered.

THE WITNESS: So I'm simply --- I'm raising all of the issues that we know exist, but then I'm not providing an expert opinion in terms of the relative priorities among these circumstances that exist.

BY ATTORNEY TRYON:

**Q. Let me just ask you very clearly is paragraph 45 an expert opinion of yours?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: I don't think I'm even

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**advantage with performance and/or an unpreventable risk to the physical safety of other athletes. You see that part, right?**

A. I do, yes.

**Q. Do you understand what the word disproportionate means in this context?**

A. To a degree.

**Q. Okay.**

**What do you understand it to mean when it says a disproportionate competitive advantage in performance?**

A. The IOC is aware that there's quite a wide range of advantages with different body types and different biology, and so they use language like disproportionate when they want to talk about something that's --- that's --- that's systematically associated with one circumstance in a way that they think would violate the rules, whatever they might be, for a specific sport.

**Q. That's pretty ambiguous. I have no idea what that means. Let me see if we can narrow it down. Is a disproportionate competitive advantage in performance --- would 20 percent be a disproportionate competitive advantage?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So that's --- I can't

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1 answer that, because it depends on context, and I'm not  
2 the person who wrote the specific language in that  
3 document, so that is the quote from the document. But  
4 in terms of --- I don't --- I think we go someplace we  
5 don't want to go if we try to over define the specific  
6 word disproportionate.

7 BY ATTORNEY TRYON:

8 **Q. So it's just not something that you or I could**  
9 **look at and reach any kind of conclusion to tell them**  
10 **what that means sitting here today.**

11 **Is that right?**

12 A. I think if we look at a specific sport, I think  
13 that if it was limited to just the two of us we might  
14 need more expertise to make a decision.

15 **Q. Well, let's say if we talked about the one mile**  
16 **--- running one mile, is that something that we could**  
17 **then determine what disproportionate competitive**  
18 **advantage and performance would mean?**

19 ATTORNEY BLOCK: Objection to form.

20 THE WITNESS: It would depend on context.  
21 And if we're talking about at the elite level which is  
22 what the IOC references and we limited --- even then if  
23 we limit it just to you and to myself, we would want  
24 more expertise.

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1 THE WITNESS: I, as an expert, cannot  
2 give you a blanket explanation of what would  
3 specifically consist of --- what would specifically meet  
4 that definition. When they wrote the statement they  
5 didn't actually even have specific guidance, that is  
6 simply the spirit of a guideline --- the spirit of what  
7 a specific guideline should consider when that guideline  
8 is made.

9 BY ATTORNEY TRYON:

10 **Q. Do you know what they meant when they said**  
11 **unfair?**

12 A. So the --- it's kind of the same circumstance.  
13 That is the purpose of this statement is to be global  
14 guidance for the experts in the specific sport when they  
15 might develop guidelines relevant to their specific  
16 sport. So for example, the group with expertise in that  
17 one mile run that you're referencing should think in  
18 this context. That's all this is doing.

19 **Q. And some of the sporting organizations have come**  
20 **up with some very specific rules.**

21 **Correct?**

22 A. Some of the sporting federations have come up  
23 with specific rules, yes.

24 **Q. And as I recall, some of them require a certain**

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1 BY ATTORNEY TRYON:

2 **Q. Right. Okay.**

3 **So we don't know what the IOC meant by this in**  
4 **any particular context do we?**

5 ATTORNEY BLOCK: Objection to form.

6 ATTORNEY TRYON: Actually, let me redraw  
7 this question.

8 BY ATTORNEY TRYON:

9 **Q. You as an expert would not be able to give me an**  
10 **expert opinion on what disproportionate competitive**  
11 **advantage in performance of the one mile run would be;**  
12 **right? You could not give me an expert opinion on that.**

13 **Fair statement?**

14 A. If you break the words out in that --- in that  
15 fashion then it does become difficult. If you ask me  
16 what the entire statement after the letter A is  
17 referencing, I can at least explain some of the thought  
18 process for the IOC there.

19 **Q. Well, my question is simply, you as an expert,**  
20 **are you able to tell me what --- able to define for me**  
21 **what would be a consistent, unfair disproportionate**  
22 **competitive advantage in performance in a one mile run**  
23 **for the IOC?**

24 ATTORNEY BLOCK: Objection to form.

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1 **level of circulating testosterone.**

2 **Is that right?**

3 A. Some of the sporting federations use a certain  
4 level of circulating hormone as part or all of their  
5 roles.

6 **Q. And some of them use the level that you've**  
7 **mentioned that you were involved in setting, which was 5**  
8 **Nmol --- say it for me. Nmol something.**

9 A. Nmol/Ls per liter. Yes, some of them use that  
10 nmol/L per liter threshold.

11 **Q. Did they --- where did they get that 5 nmol/L**  
12 **quantity, do you know?**

13 ATTORNEY BLOCK: Objection to form.

14 THE WITNESS: So I do know where that  
15 number comes from originally for World Athletics, which  
16 is the first one to put that number out. And that  
17 number comes from studies of some Olympic athletes in  
18 some races where there was for at least certain  
19 distances a demonstrable difference between people who  
20 had --- and specifically people in the female category  
21 who had lower numbers of testosterone than that and  
22 higher numbers of testosterone than that.

23 BY ATTORNEY TRYON:

24 **Q. You were on that committee.**

**Right?**

A. I was on the group that wrote that World Athletics policy, yes. Not on the group that did that study.

**Q. And so how did you finally come up with the number of five as opposed to four or six or three or seven?**

A. The number five discriminates in terms --- in terms of there being some demonstrated advantage or improved outcome is really what it was, for those with higher numbers versus those with lower numbers. That was not true necessarily with a lower testosterone threshold. That is a difference was not as apparent and that's really the entire logic pattern there.

**Q. Well, earlier you just said it could have been --- you didn't think there was that much difference between five and six. That was your testimony earlier as I recall.**

**Right?**

ATTORNEY BLOCK: Objection.

THE WITNESS: As an endocrinologist I can tell you that those difference --- that that's right that to --- the difference between five and six would be hard to demonstrate.

BY ATTORNEY TRYON:

**Q. So how did you settle on five instead of six or five or six instead of four?**

A. So I guess the inputs are that there needed to be a line so that there's ability to enforce something. There needed to be a rule. And the choice of five, mostly, is what I've been saying already, which is --- it's a clean number where there's at least some distances, there's a demonstrable difference in outcomes at that level --- above and below that level.

**Q. So are you saying that there is a value of having a hard rule?**

ATTORNEY BLOCK: Objection to form.

BY ATTORNEY TRYON:

**Q. Maybe I should say having a clean rule?**

A. So as an expert I'm not --- that wasn't my role on the committee to determine that there needed to be a rule, but that is certainly the logic pattern of the committee that there ought to be a rule. That is not my expert opinion.

**Q. Okay.**

**But different organizations are free to come up with different conclusions of about what their rules ought to be.**

**Right?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So the different International Athletic Federations were to make use of data such as it exists to make their own rules for participation in their sports.

BY ATTORNEY TRYON:

**Q. And different organizations came up with very different rules.**

**Right?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: So most of the international federations still do not have rules, actually. And honestly, that's mostly a logistics situation where some of these organizations are too small to put the data together or the committees together to make rules.

BY ATTORNEY TRYON:

**Q. Those that do have rules have different rules.**

**Correct?**

A. Those that do have rules have had different conversations in the space. I don't know that I could systematically go through all of them, but there is some variation, yes.

**Q. Some require --- have a Level 5 nanomoles per liter and some still have ten.**

**Right?**

A. So I'd have to go back and look. You would have to show me. World Athletics has five for sure. And that's the one where I'm most familiar because I was actually sitting in the room helping draft that. The IOC in the past had used ten as a line, but that just sits there right now as a --- as a number someone might adopt. I actually don't know off the top of my head if anybody has adopted that for their formal rules.

**Q. What was the scientific basis for the ten nanomoles per liter?**

A. The logic for ten at the time is it is the bottom of the male range. That's its history.

**Q. Okay.**

**So it sounds to me like there is room for reasonable discussion about what the appropriate rule ought to be?**

ATTORNEY BLOCK: Objection to form.

THE WITNESS: The way I would say it is as different athletic organizations obtain data, they might use those data to determine differences, including if the --- if our best measure is testosterone,



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1 different thresholds of testosterone.

2 BY ATTORNEY TRYON:

3 **Q. Would it be appropriate to use performance data**  
4 **as well to make those decisions?**

5 A. The best data in my opinion are actual outcomes  
6 within a given sport.

7 **Q. What do you mean by outcomes, performance? Are**  
8 **we saying the same thing?**

9 A. I don't know if we're saying the same thing. So  
10 the studies that I reference are the Roberts study and  
11 the Harper study, where they actually look at specific  
12 athletic endeavors and measure those as opposed to the  
13 studies where they're simply sitting in a physiology lab  
14 measuring somebody move an arm back and forth and  
15 thinking that it might associate with some actual  
16 athletic performance.

17 **Q. Somebody moving their arm back and forth with**  
18 **weights, that's not athletic?**

19 A. It's --- again, it would --- right, that's ---  
20 that's only --- that's what we would call a surrogate  
21 endpoint where you are simply looking at something that  
22 might correlate with what you want, but --- but you  
23 don't know it until you test it. It ends up being what  
24 we call hypothesis generating. That is how we would say

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1 it in a scientific way.

2 **Q. And the same would hold true with the level of**  
3 **circulating testosterone, you would want to actually**  
4 **test that in real life to see how people's circulating**  
5 **testosterone actually translates into performance of an**  
6 **actual athletic contest.**

7 **Right?**

8 A. That's right. So the data that were used to  
9 determine the five nanomole per liter cut point are  
10 passively collected data. And if somebody did a study  
11 looking at that threshold and found that there was,  
12 let's say, no difference, then that rule might be  
13 discarded.

14 **Q. And so far, other than Roberts and Harper, if I**  
15 **recall correctly, those are the only two that you know**  
16 **of.**

17 **Right?**

18 ATTORNEY BLOCK: Objection to form.

19 THE WITNESS: Those are the only two  
20 studies that have gone that extra step and looked at an  
21 actual athletic activity with an outcome that is part of  
22 that athletic activity and not what I was just  
23 referencing, as a surrogate endpoint.

24 BY ATTORNEY TRYON:

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1 **Q. In those two studies did they check the**  
2 **circulating testosterone in the individuals in these**  
3 **studies?**

4 A. I'd have to look. I think we did look earlier  
5 today with regard to the Harper study, and I don't think  
6 she's referencing testosterone levels at all. Again,  
7 I'd have to go back and look to be sure. We were  
8 talking about whether they were self-reported. And the  
9 --- with the Robert study I would have to go back and  
10 look at that one, too. I'm feeling like the answer is  
11 no, but we can look there if you want.

12 **Q. Yeah, we don't need to. I'm pretty sure that we**  
13 **just talked about how long they had been in the therapy**  
14 **rather than actual measurements.**

15 **Well, let me move on. I know we don't have a**  
16 **lot of time left.**

17 **So you said you're familiar in your expert**  
18 **report you are familiar with HB-3293.**

19 **Is that right?**

20 ATTORNEY BLOCK: Objection to form.

21 THE WITNESS: So yes, I'm somewhat  
22 familiar.

23 BY ATTORNEY TRYON:

24 **Q. Have you read the whole thing?**

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1 A. I don't think I've read the whole thing, no.

2 **Q. When did you first hear of HB-3293?**

3 A. I probably first heard of it when the --- when I  
4 received contact from the ACLU to serve as an expert  
5 witness.

6 **Q. Do you recall if that was before or after it was**  
7 **passed?**

8 A. I don't recall. I would have to speculate that  
9 it would be after, because that would --- I mean that  
10 would make sense that that is true, but I don't recall,  
11 so I wouldn't be able to answer that.

12 **Q. Okay.**

13 **So we would refer to this as State Women's**  
14 **Sports Law and there's other types of laws like this**  
15 **throughout the country.**

16 **Are you aware of that?**

17 ATTORNEY BLOCK: Objection to form.

18 THE WITNESS: So I'm aware that there are  
19 attempts at legislation and some actual legislation  
20 passed to block transgender athletes in various  
21 permeations, including transgender women in several  
22 states. I'm aware of that, yes.

23 BY ATTORNEY TRYON:

24 **Q. Are you aware then House Bill 3293 the word**

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1 **transgender does not appear at all?**

2 A. House Bill --- that's this one?

3 **Q. That is this one.**

4 A. I was not aware that the word transgender does  
5 not appear at all.

6 **Q. Are you tracking the other bills out there that  
7 are similar to House Bill 3293?**

8 A. I am not personally tracking the other bills,  
9 no.

10 **Q. Can you take a look at the Handelsman report  
11 that you have in front of you. I don't recall the  
12 exhibit number.**

13 ATTORNEY WILKINSON: I think Exhibit 13  
14 --- oh, sorry, it's Exhibit 4, I think.

15 THE WITNESS: I don't see.

16 ATTORNEY WILKINSON: I can give you that.

17 THE WITNESS: The stack got big.

18 ATTORNEY TRYON: We can just bring it ---  
19 if you can't find it we can bring it up on the screen?

20 THE WITNESS: Okay.

21 I was given another copy, so we're good.  
22 I have it in front of me.

23 BY ATTORNEY TRYON:

24 **Q. Okay.**

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1 for example gender identity. And the phrasing  
2 characteristic defined binary form is not necessarily  
3 true for each component of biological sex.

4 **Q. So you disagree with the statement in the  
5 Handelsman report, is that --- did I state that fairly?**

6 A. Right. I would characterize the statement as  
7 not exhaustive.

8 ATTORNEY TRYON: Let me ask the court  
9 reporter if I have any time.

10 COURT REPORTER: I have six minutes and  
11 58 --- six hours and 58 minutes.

12 ATTORNEY TRYON: Well, I guess with my  
13 last two minutes I'll just say thank you for your time  
14 and I appreciate it. And I don't have any other  
15 questions. I don't know if any of the other Defendants  
16 do. I doubt it. But go ahead. If they do, go ahead.  
17 Kelly?

18 ATTORNEY MORGAN: This is Kelly Morgan.  
19 I don't have any questions. Thank you so much.

20 ATTORNEY TRYON: Roberta? Susan, you're  
21 next.

22 ATTORNEY GREEN: This is Roberta Green on  
23 the behalf of the SSAC. No questions. Thank you.

24 ATTORNEY DENIKER: Dr. Safer, this is

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1 **On the second page?**

2 A. On the second page.

3 **Q. Okay.**

4 **Under fairness and segregation in sports.  
5 Do you see that section?**

6 A. I do.

7 **Q. In the third full paragraph underneath there ---  
8 oh the formatting there is a little different than the  
9 copy that I have. Let's see. There's a paragraph that  
10 starts the terms sex and gender. There it is. The  
11 terms sex and gender are often confused as  
12 interchangeable. Now, I want you to focus on this next  
13 sentence. Sex is an objective specific biological  
14 state, a term with distinct fixed facets notably  
15 genetic, chromosomal, gonadal, hormonal and phenotypic  
16 including genital sex, each of which has a  
17 characteristic defined binary form. Did I read that  
18 correctly?**

19 A. You read that correctly, yes.

20 **Q. Do you agree with that statement?**

21 A. I don't agree with that statement completely,  
22 no.

23 **Q. What specifically do you find objectionable.**

24 A. It's missing some components of sex, including,

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1 Susan Deniker. I have no questions. Thank you for your  
2 time today.

3 ATTORNEY TRYON: We are finished.

4 VIDEOGRAPHER: This concludes this  
5 deposition. The current time reads 6:31 p.m. Eastern  
6 Standard Time.

7 \*\*\*\*\*

8 VIDEOTAPED DEPOSITION CONCLUDED AT 6:31 P.M.

9 \*\*\*\*\*

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